1907

TOSHIBA

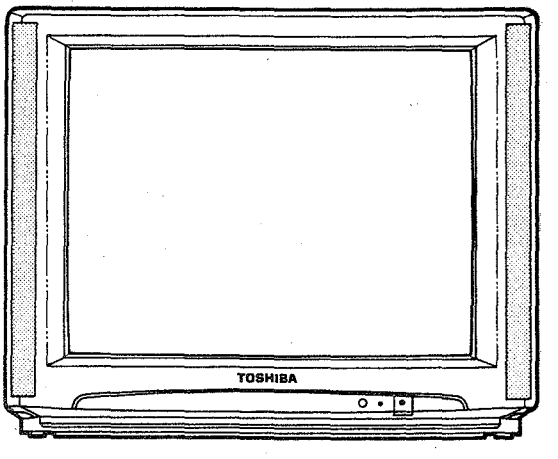
FILE NO. 030-9419

SERVICE MANUAL

COLOUR TELEVISION

C3SSR Chassis

2832TF



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1907

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. The E.H.T. must be checked every time the receiver is serviced to ensure that the C.R.T. does not emit X-ray radiation as result of excessive E.H.T. voltage. The nominal E.H.T. for this receiver is 26.5 kV at zero beam current (minimum brightness) operating at 220V a.c. The maximum E.H.T. voltage permissible in any operating circumstances must not exceed 29.0 kV. When checking the E.H.T., use the 'High Voltage Check' procedure in this manual using an accurate E.H.T. voltmeter.
2. The only source of X-RAY radiation in this receiver is the C.R.T. To prevent X-ray radiation, the replacement C.R.T. must be identical to the original fitted as specified in the Parts List.
3. Some components used in this receiver have safety related characteristics preventing the C.R.T. from emitting X-ray radiation.
   For continued safety, replacement component should only be made after referring the Product Safety Notice below.

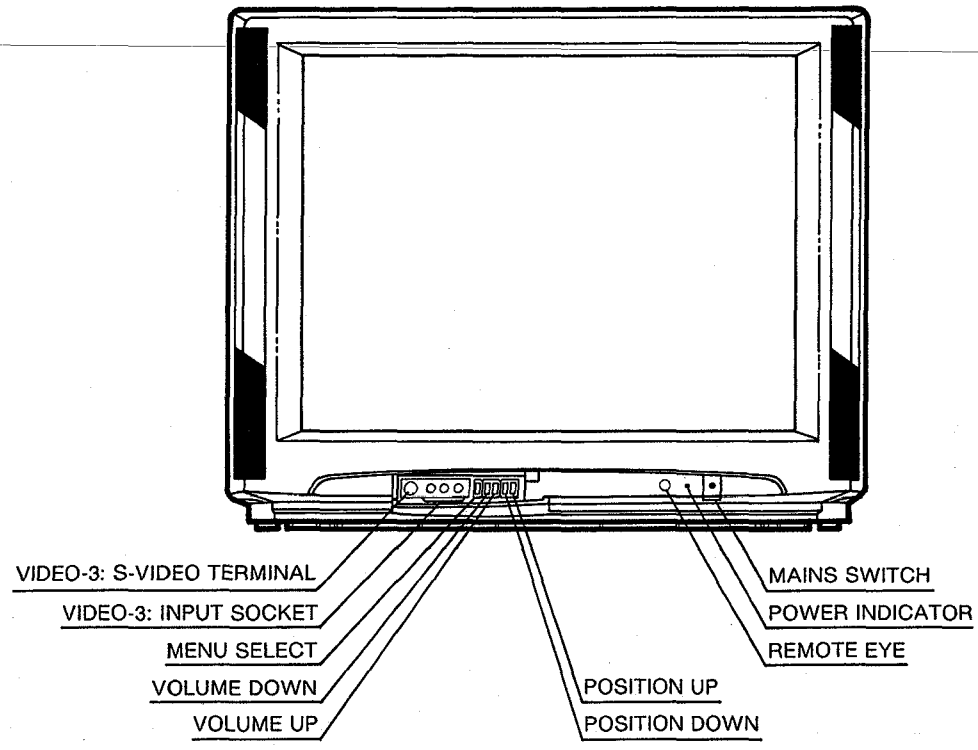
SAFETY PRECAUTION

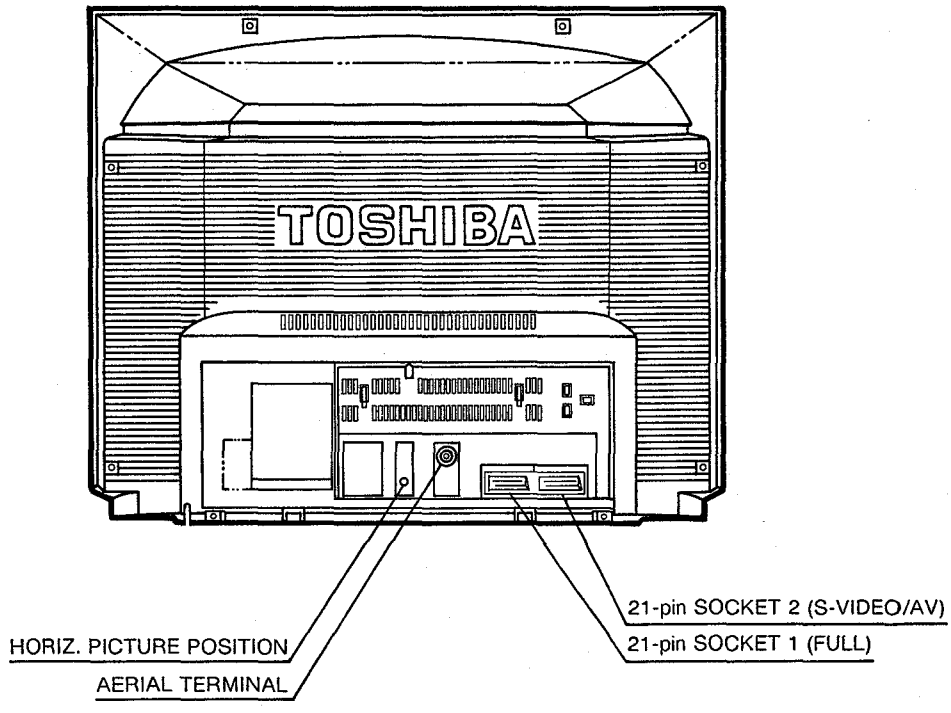
1. This receiver has a nominal working E.H.T. voltage of 24.5 kV. Extreme caution should be exercised when working on the receiver with the back removed.
   Do not attempt to service this receiver if you are not conversant with the precautions and procedures for working on high voltage equipment.
   When handling or working on the C.R.T., always discharge the anode to the receiver chassis before removing the anode cap
   The C.R.T., if broken, will violently expel glass fragments. Use shatter proof goggles and take extreme care while handling.
   Do not hold the C.R.T. by the neck as this is a very dangerous practice.
2. It is essential that to maintain the safety of the customer all cable forms be replaced exactly as supplied from factory.
3. A small part of the chassis used in this receiver is, when operating, at approximately half mains potential at all times. It is therefore essential in the interest of safety that when serving or connecting any test equipment the receiver should be supplied via a suitable isolating transformer of adequate rating.
4. Replace blown fuses within the receiver with the fuse specified in the parts list.
5. When replacing wires or components to terminals or tags, wind the leads around the terminal before soldering. When replacing safety components identified by the international hazard symbols on the circuit diagram and parts list, it must be a Toshiba approved type and must be mounted as the original.
6. Keep wires away from high temperature components.

PRODUCT SAFETY NOTICE

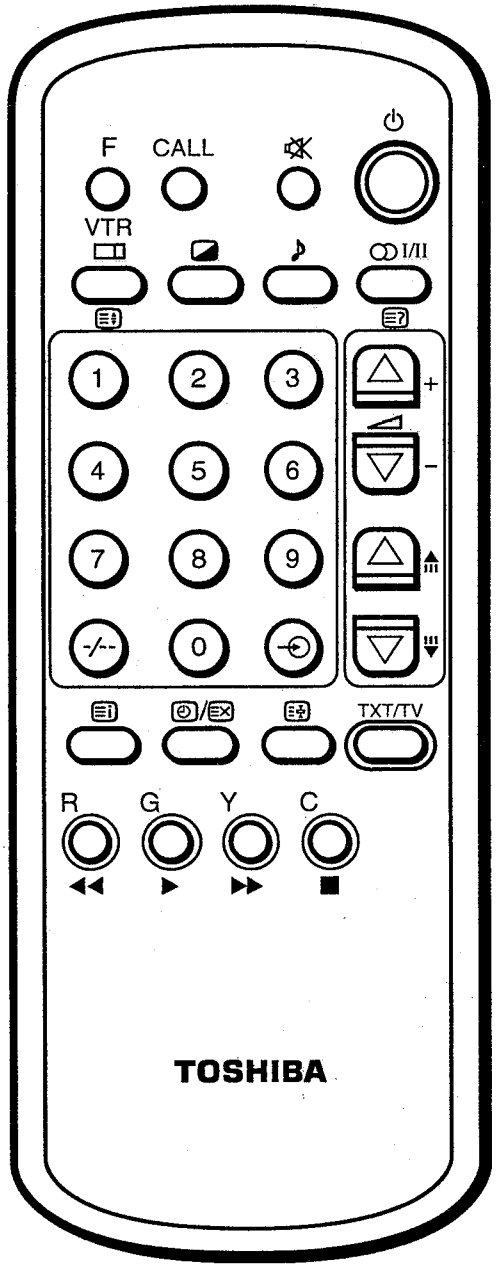
Many electrical and mechanical components in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-ray radiation protection afforded by them cannot necessarily be obtained by using replacements rated at higher voltages or wattage, etc. Components which have these special safety characteristics in this manual and its supplements are identified by the international hazard symbols on the schematic diagram and parts list. Before replacing any of these components read the parts list in this manual carefully. Substitute replacement components which do not have the same safety characteristics as specified in the parts list may create X-ray radiation.

FRONT CONTROLS AND REAR VIEWS





REMOTE HAND HELD UNIT



CT-9678

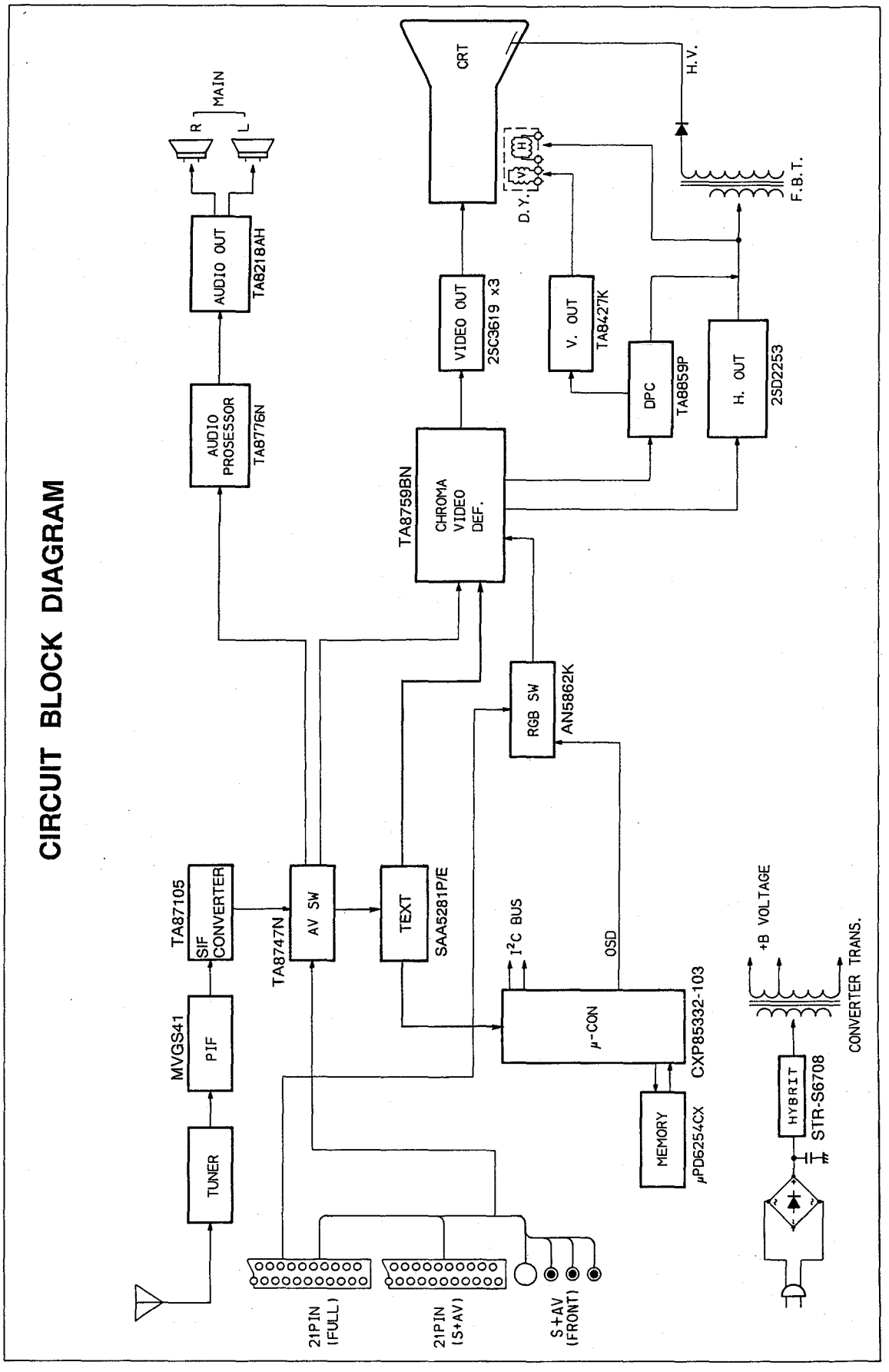
KEY ASSIGNMENT

- ⏻ ..... ON STAND-BY (F + ; VTR ON STAND-BY)
- 🔇 ..... MUTE
- CALL ..... DISPLAY CALL
- F / VTR ..... FUNCTION KEY FOR VTR (To push double for VTR & SERVICE Operation)
- ..... <TV MODE> ..... TUNING & OTHER MENU; <TEXT MODE> ..... F-T-B (FULL, TOP, BOTTOM)
- ..... PICTURE MENU
- ♪ ..... SOUND MENU
- I/II ..... <TV MODE> ..... STEREO BILINGUAL; <TEXT MODE> ..... REVEAL / CONCEAL
- 1~9, 0 ... TEN KEY
- -/-- ..... 1 or 2 place
- ..... VIDEO INPUT (EXTERNAL INPUT SOURCE SW.)
- ..... VOLUME
- + ... LEVEL PLUS (VOLUME, MENU)
- – ..... LEVEL MINUS (VOLUME, MENU)
- △ ..... UP (POSI., CH., TEXT PAGE)
- ▽ ..... DOWN (POSI., CH., TEXT PAGE)

TELE-TEXT
- TXT/TV..... TEXT, MIX, TV MODE SW.
- ..... HOLD
- /EX ..... TIME DISPLAY (TV MODE); TEXT CLEAR (TEXT MODE)
- ..... INDEX
- FLOF COLOUR KEY (4 key used)
  - R ; Red
  - G ; Green
  - Y ; Yellow
  - C ; Cyan

VTR
- To push with F Key
- ⏻ ..... ON STAND-BY ■ ..... STOP
- ▶ ..... PLAY
- ◀◀ ..... FF / CUE ▶▶ ..... REV / REW

CIRCUIT BLOCK DIAGRAM



WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

INSTALLATION AND SERVICE ADJUSTMENTS

GENERAL INFORMATIONS

All adjustments are thoroughly checked and corrected when the receiver leaves the factory. Therefore the receiver should operate normally and produce proper colour and B/W pictures upon installation. However, several minor adjustments may be required depending on the particular location in which the receiver is operated.
This receiver is shipped completely in cardboard carton. Carefully draw out the receiver from the carton and remove all packing materials. Plug the power cord into a convenient 220 volts 50 Hz AC two pin power outlet. Turn the receiver ON. Check and adjust all the customer controls such as BRIGHTNESS, CONTRAST and COLOUR Controls to obtain natural colour or B/W picture.

AUTOMATIC DEGAUSSING

A degaussing coil is mounted around the picture tube so that external degaussing after moving the receiver is normally unnecessary, providing the receiver is properly degaussed upon installation. The degaussing coil operates for about 1 second after the power to the receiver is switched ON. If the set is moved or faced in a different direction, the power switch must be switched off at least one hour in order that the automatic degaussing circuit operates properly. Should the chassis or parts of the cabinet become magnetized to cause poor colour purity, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube, the sides and front of the receiver and slowly withdraw the coil to a distance of about 2 m before disconnecting it from AC source. If colour shading still persists, perform the COLOUR PURITY ADJUSTMENT and CONVERGENCE ADJUSTMENTS procedures.

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis.

1. Connect an accurate high voltage meter to the second anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST Controls to minimum (zero beam current).
3. High voltage will be measured below 29.0 kV.

HEIGHT ADJUSTMENT

1. Receive the UK PHILIPS pattern, and set the contrast, colour and brightness to centre.
2. Adjust HEIGHT Control (R351) so that white blocks at top and bottom of the picture are just masked.

HORIZONTAL CENTRE ADJUSTMENT

1. Receive the UK PHILIPS pattern.
2. Set the contrast and colour to centre, and the brightness to centre.
3. Adjust H. CENTER USER Control (R452) so the pattern centre can be located at the screen centre.

FOCUS ADJUSTMENT

Adjust FOCUS Control on FLYBACK TRANS. (T461) for well defined scanning lines in the centre area on the screen.

SIF CONVERTER (LS02) ADJUSTMENT

1. Supply +12V DC to +12V line of SIF CONV. UNIT (pin #5 of PS01).
2. Connect SIF generator to pin #9 of PS01.
3. Connect the millivoltmeter to pin #2 of PS01.
4. Set up the SIF generator as described below.
   Sound carrier frequency : 5.5 MHz
   Signal level : 80 dBμ
5. Connect SIF2 and SIF3 to VCC.
6. Adjust LS02 for the maximum reading of millivoltmeter.

PAL MATRIX ADJUSTMENT

1. Tune in the colour programme of the Philips pattern.
2. Set the COLOUR Control to obtain the proper colour.
3. If the PAL MATRIX adjustment is incorrect, the Venetian Blind would appear in the colour bars area. This case needs the adjustment.
4. At the first, adjust DL PHASE ADJ. Coil (L551) to minimize the Venetian Blind.
5. Next adjust 1H-DL ADJ. VR (R551) to minimize the Blind.
6. If the Venetian Blind still remains, adjust 1H-DL PHASE ADJ. Coil (L551) to minimize the Blind again.
7. Repeat the item 5 and 6 procedures, adjust the R551 and L551 until the Blind does not appear.

BELL COIL (LM01) ADJUSTMENT

1. Receive SECAM colour bar signal.
2. Connect the synchroscope to the terminal Pin 2 of LM01.
3. Adjust LM01 for the flat level of amplitude in each colour bar waveform on the scope. (See figure 1.)

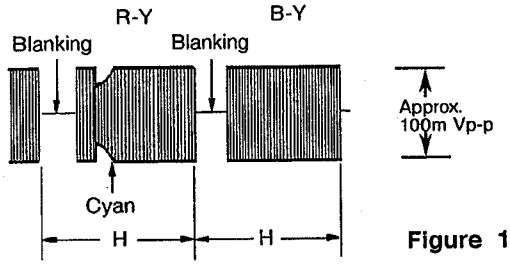


Figure 1.

IDENT COIL (LM04) ADJUSTMENT

1. Receive SECAM colour bar signal.
2. Connect the DC voltmeter (Digital Voltmeter) to the pin 23 of IC501.
3. Adjust LM04 for the maximum indication (approx. DC10V) on the meter.

B-Y, R-Y DEMOD COIL (LM02, LM03) ADJUSTMENT

1. Receive SECAM colour bar signal.
2. Set the COLOUR, BRIGHTNESS and CONTRAST Controls free.
3. Connect the synchroscope to the pin 62 of IC501.
4. Adjust LM02 so that the white level in picture part reaches to the vertical retrace line. (See figure 2.)
5. Then change the connection of synchroscope from the pin 62 to the pin 60 of IC501.
6. Adjust LM03 so that the white level in picture part reaches to the vertical retrace line. (See figure 3.)

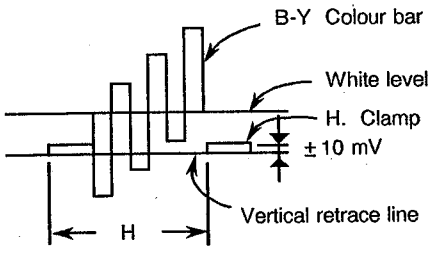


Figure 2.

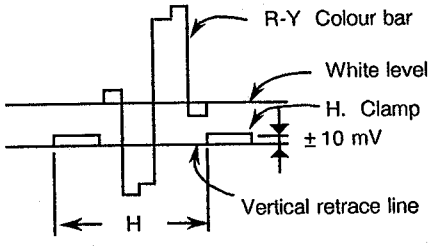


Figure 3.

CRT GREY SCALE ADJUSTMENT

1. Tune in an active channel.
2. Set the SERVICE SW. (S202) in the "H. LINE" position.
3. Turn the SCREEN Control (on T461) fully counter-clockwise.
4. By rotating the RED, GREEN and BLUE CUT OFF Controls (R557, R558, R559) to the mid position.
5. Set the GREEN and BLUE DRIVE Controls (R252, R253) to the center.
6. Rotate the SCREEN Control gradually clockwise until the first line appears slightly on the screen. Set the SCREEN Control to this position.
7. Adjust the CUT OFF Controls to obtain the slightly lighted horizontal lines in the same levels of three colours (RED, GREEN and BLUE). The lines may look like white if the CUT OFF Controls are adjusted properly.
8. Set the SERVICE SW. (S202) in the "RECEIVE" position.
9. Set the CONTRAST and COLOUR Controls to minimum, and BRIGHTNESS Control to the maximum.
10. Adjust the BLUE and GREEN DRIVE Controls (R252/R253) to obtain proper white-balanced picture in high light areas.
11. Set the BRIGHTNESS and CONTRAST Controls to obtain dark grey raster. Then check the white balance in low brightness. If the white balance is not proper, retouch the CUT OFF Controls and DRIVE Controls to obtain a good white balance in both low and high light areas.

SUB-BRIGHTNESS ADJUSTMENT

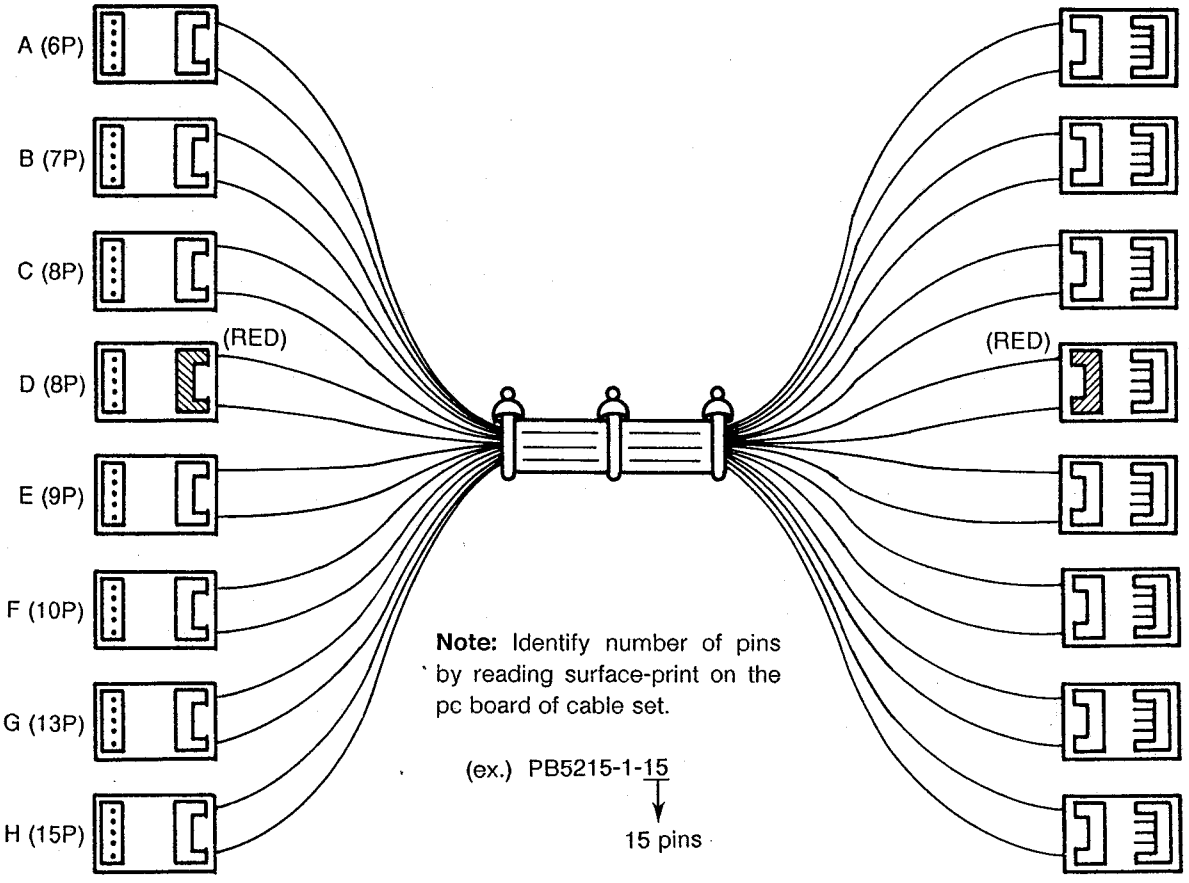
1. Tune in a colour programme.
2. Set the CONTRAST Control to the minimum and the BRIGHTNESS Control to the centre.
3. Set the COLOUR Control to the centre.
4. Set the SUB-BRIGHT. Control (R255) to the centre and leave the receiver for five minutes in this state.
5. Watching the picture well, adjust the SUB-BRIGHT. Control in the position where the picture does not show evidence of blooming in high bright area and not appear too dark in low bright portion.
6. Check the proper picture variation by rotating the CONTRAST and BRIGHTNESS Controls to both extremes.
7. If the picture does not appear dark with the CONTRAST and BRIGHTNESS Controls turned to the minimum, or not appear bright with the controls turned to the maximum, adjust the SUB-BRIGHT. Control again for the acceptable picture.

EXTENSION CABLE SET

1. Extension Cable Set is available for servicing modules of C2DB chassis.
   For 2832TF chassis, however, this cable is used only for SIF CONVERTER (10P) and CHROMA-1 (10P) modules.

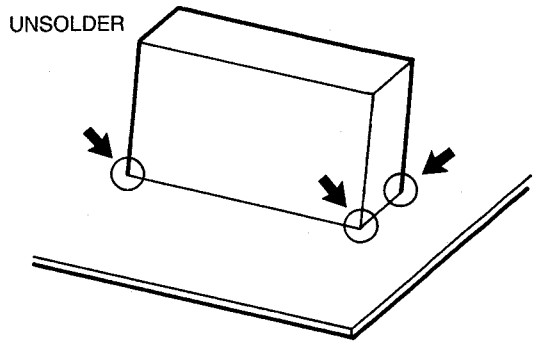
2. Identify number of pins by reading surface-print on the pc board of cable set.

Part No.	Description
23305270A	Extension Cable Set

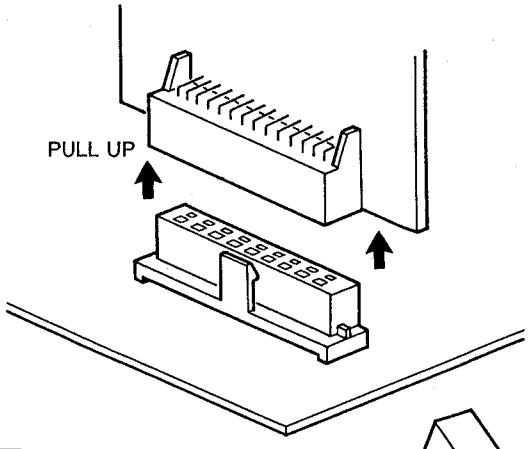


TO USE THE CABLE SET

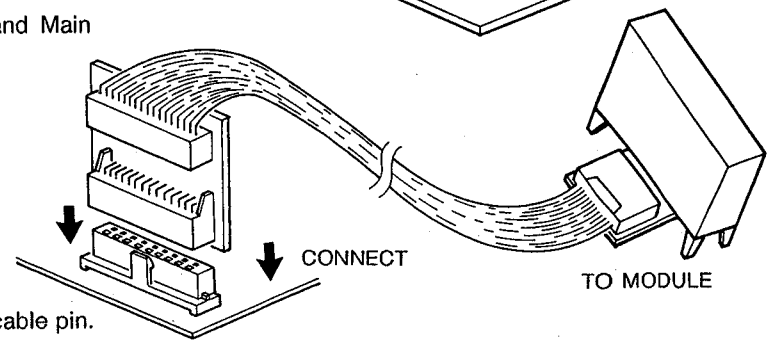
1. Unsolder corners on shielding case of module, which are marked with arrow in the figure.



2. Remove shielding case, and pull up module to disconnect.



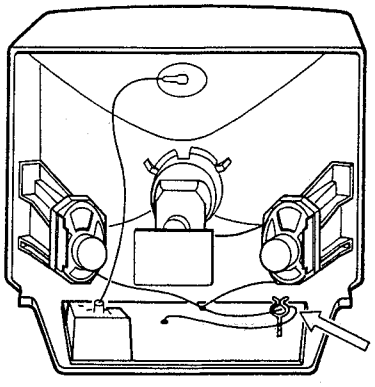
3. Connect Extension Cable Set to module and Main board.



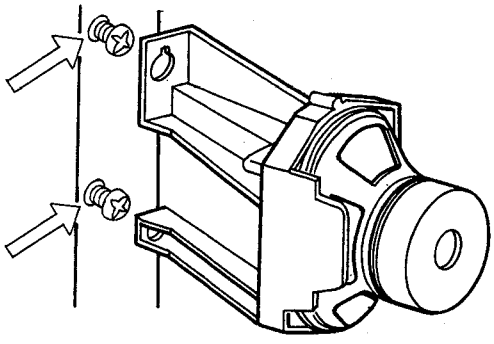
4. Reference chart of module and extension cable pin.

HOW TO MAKE THE CHASSIS STAND FOR REPAIR OF THE 2832TF (typical model)

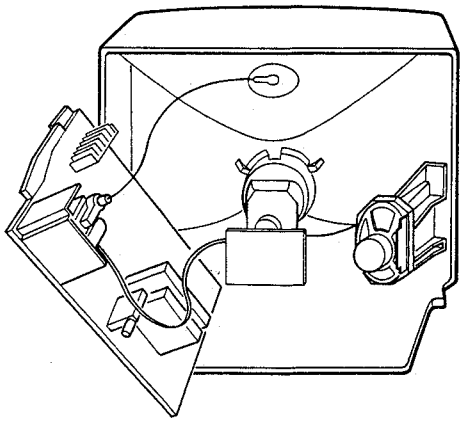
1. Remove the wire set for the loud speaker from the holder.



2. Remove the horn speaker unit (unscrew the fixing screws).

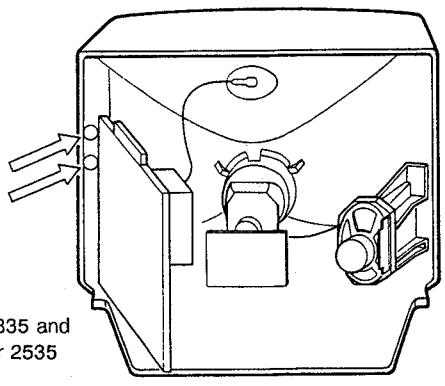


3. Lift up the chassis in such manner that it stands against the inner side surface of the front mask.



4. Using the screws which have been removed when disconnecting the front mask and the back cover, screw the chassis to the side of the front mask.

5. To restore, perform the above steps in opposite order.



Upper hole for 2835 and the lower hole for 2535 series.

ADJUSTMENT METHOD FOR SERVICING

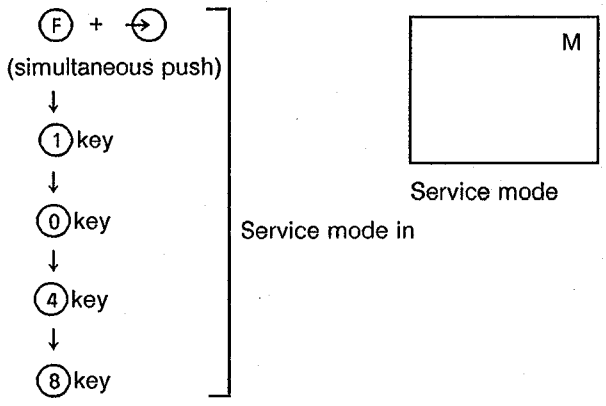
1. OUTLINE

Since each IC used is of I²C bus control type, readjustment of the TVs also needs adjustment through I²C bus control.

In the service mode, sub-bright, deflection system sub-adjustments, picture system sub-adjustments can be made easily with user remote control unit.

2. SERVICE MODE OPERATION

2-1. How to Enter the Service Mode



2-2. How to Exit from the Service Mode

Exit the service mode by turning the power on/off with the remote control.

3. ADJUSTMENT IN THE SERVICE MODE

3-1. Service Mode Level Adjustments

(1) Push (F) + ◪ key (simultaneous push) (item UP) or (F) + ♪ key (simultaneous push) (item DN) to select item to be adjusted.

(2) Adjust with the level UP/DN (VOL UP/DN key) key.

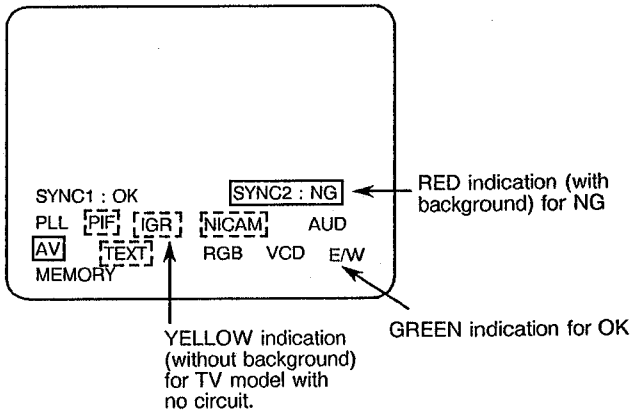
3-2. Other Service Mode Adjustments

(F) + (2) key (simultaneous push) cut off:
(NO VERTICAL DEFLECTION) ON/OFF

4. SELF CHECK

(1) Indicates sync signal and acknowledgement of each IC.

(2) Example of display on screen


SYNC1 : OK
SYNC2 : NG
PLL PIF IGR NICAM AUD
AV TEXT RGB VCD E/W
MEMORY
RED indication (with background) for NG
YELLOW indication (without background) for TV model with no circuit.
GREEN indication for OK

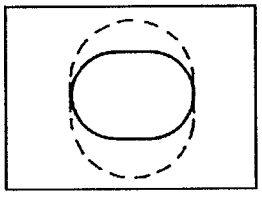
(3) Operation:

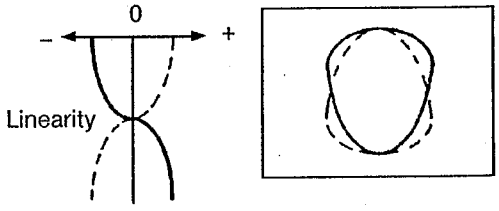
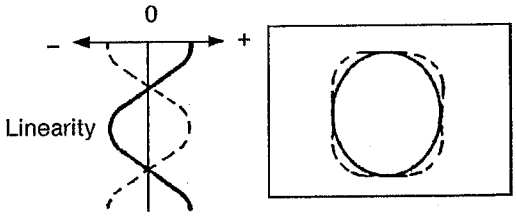
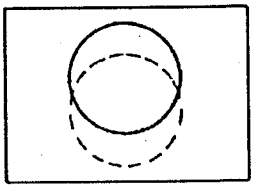
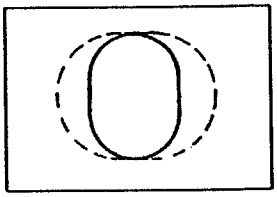
① TV gets into service mode with key operation;

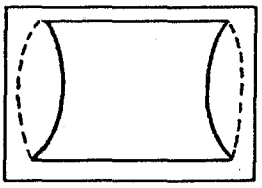
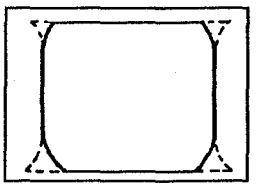
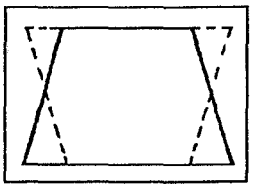
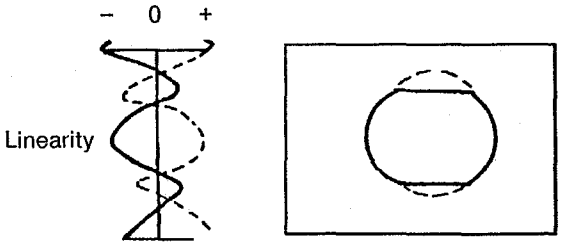
(F) + → → 1 key → 0 key → 4 key → 8 key

② TV indicates screen with (F) + 4 key.

5. SUB DATA ADDITIONAL DESCRIPTION

ITEM No.	Symbol	Description
15	LVE	L-SECAM output level.
16	RFA	RF AGC
17	HIT	V amplitude adjustment. 

ITEM No.	Symbol	Description
18	LIN	V linearity correction 1.  Linearity balance between top and bottom screen.
19	VSC	V linearity correction 2.  Linearity balance between top/bottom and center.
20	VPC	V picture position adjustment. 
21	VCP	Setting of amount of V amplitude correction against variation of screen brightness.
22	WID	H amplitude adjustment. 

ITEM No.	Symbol	Description
23	DPC	H pin-cushion distortion correction. 
24	CNR	H pin-cushion distortion correction at four corners. 
25	KEY	Pedestal distortion correction. 
26	HCP	Setting of amount of H amplitude correction against variation of screen brightness.
27	VMC	V linearity correction. Linearity balance at 1/4, 3/4 areas from top. 

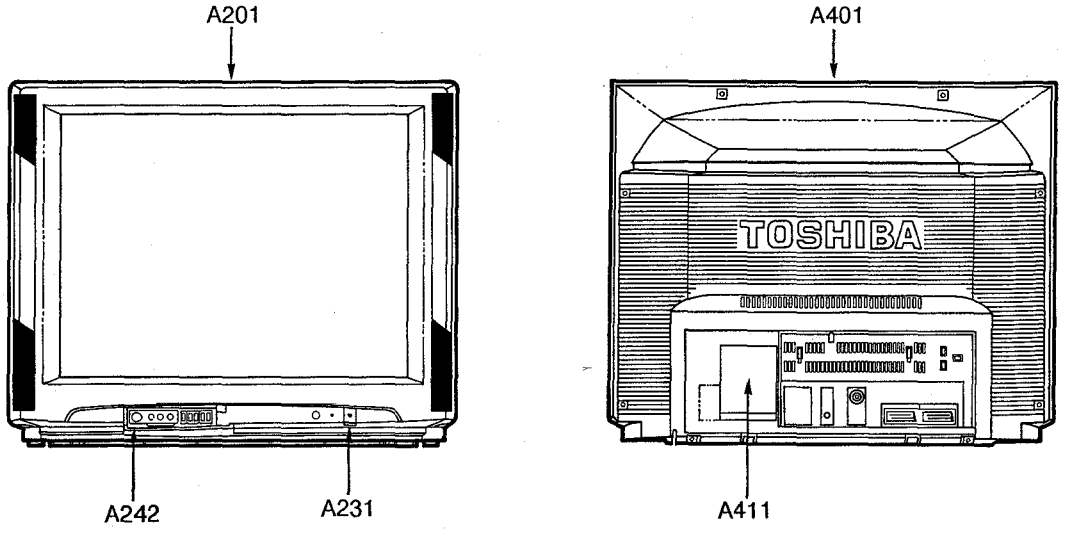
6. ROM DATA LIST FOR IIC BUS CONTROL

(Reference Value)

ITEM No.	Symbol	Comment	Data
11	M00	MODE 0	42
12	M01	MODE 1	18
13	M02	MODE 2	01
14	M03	MODE 3	00
15	LVE	L-SECAM OUTPUT LEVEL	* 25
16	RFA	RF AGC	* 42
17	HIT	HEIGHT	* 30
18	LIN	V. LINEARITY	32
19	VSC	V. S-CORRECTION	32
20	VPC	V. POSITION	* 07
21	VCP	V. COMPENSATION	30
22	WID	H. WIDTH	* 26
23	DPC	PARABOLA	* 24
24	CNR	DPC CORNER	32
25	KEY	KEYSTONE	09
26	HCP	H. COMPENSATION	10
27	VMC	V. M-CORRECTION	41
28	SHI	16:9 SUB HEIGHT	02
29	SLI	16:9 SUB V. LINEARITY	32
30	SVS	16:9 SUB V. S-CORRECTION	17
31	SDP	16:9 SUB DPC	21
32	SCN	16:9 SUB CORNER	30
33	TON	BAZOOKA TONE MID-LEVEL	36
34	NON	NICAM ON LEVEL	–
35	NOF	NICAM OFF LEVEL	–
36	ION	IGR ON LEVEL	–
37	IOF	IGR OFF LEVEL	–
38	I24	IGR K24	–
39	I39	IGR K39	–
40	N39	NICAM K39	–
41	I49	IGR K14, K19	–

* Mark items should be adjusted.

CABINET REPLACEMENT PARTS LIST



Location No.	Part No.	Description
A201	23410521	Front Cover
A220	23416835	Speaker Box (Right)
A221	23448955	Piece
A225	23416834	Speaker Box (Left)
A226	23448955	Piece
A231	23443776	Button, POWER
A241	70368125	Push Catch for Door
A242	23425524	Door
⚠A401	23425487	Back Cover
A411	23569312	Model No. Label

CHASSIS REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

CAUTION: The international hazard symbols " ⚠ " in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

NOTICE: The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.

ABBREVIATIONS:

Capacitors.....	CD	: Ceramic Disk	PF	: Plastic Film	EL	: Electrolytic
Resistors.....	CF	: Carbon Film	CC	: Carbon Composition	MF	: Metal Film
	OMF	: Oxide Metal Film	VR	: Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Part No.	Description
CAPACITORS		
C182	24232103	CD, 0.01μF, +80%, −20%
C183	24797229	EL, 2.2μF, ±20%, 50V
C184	24794471	EL, 470μF, ±20%, 16V
C185	24232103	CD, 0.01μF, +80%, −20%
C186	24538474	PF, 0.47μF
C188	24797010	EL, 1μF, ±20%, 50V
C189	24232103	CD, 0.01μF, +80%, −20%
C190	24232103	CD, 0.01μF, +80%, −20%
C191	24797479	EL, 4.7μF, ±20%, 50V
C192	24797479	EL, 4.7μF, ±20%, 50V
C193	24797229	EL, 2.2μF, ±20%, 50V
C194	24797229	EL, 2.2μF, ±20%, 50V
C195	24436030	CD, 3pF, ±0.25pF
C196	24436030	CD, 3pF, ±0.25pF
C202	24795101	EL, 100μF, ±20%, 25V
C203	24232103	CD, 0.01μF, +80%, −20%
C204	24797220	EL, 22μF, ±20%, 50V
C205	24797478	EL, 0.47μF, ±20%, 50V
C206	24232103	CD, 0.01μF, +80%, −20%
C207	24794100	EL, 10μF, ±20%, 16V
C208	24232103	CD, 0.01μF, +80%, −20%
C209	24232103	CD, 0.01μF, +80%, −20%
C210	24797100	EL, 10μF, ±20%, 50V
C211	24232103	CD, 0.01μF, +80%, −20%
C212	24232103	CD, 0.01μF, +80%, −20%
C213	24232103	CD, 0.01μF, +80%, −20%
C214	24436330	CD, 33pF
C215	24436560	CD, 56pF
C240	24797478	EL, 0.47μF, ±20%, 50V
C301	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
C302	24212152	CD, 1500pF, ±10%
C303	24214221	CD, 220pF, ±10%, 500V
C304	24590102	PF, 1000pF
C305	24617912	EL, 2.2μF, ±10%, 50V
C306	24667332	EL, 3300μF, ±20%, 25V
C307	24232103	CD, 0.01μF, +80%, −20%
C308	24693473	PF, 0.047μF, 100V
C310	24765102	EL, 1000μF, ±20%, 35V
C311	24214151	CD, 150pF, ±10%, 500V

Location No.	Part No.	Description
C313	24082053	PF, 0.1μF, 100V
C314	24591563	PF, 0.056μF
C315	24590104	PF, 0.1μF
C316	24538474	PF, 0.47μF
C317	24617926	EL, 220μF, ±20%, 16V
C318	24796221	EL, 220μF, ±20%, 35V
C319	24212102	CD, 1000pF, ±10%
C321	24591183	PF, 0.018μF
C322	24617912	EL, 2.2μF, ±10%, 50V
C323	24538224	PF, 0.22μF
C324	24590683	PF, 0.068μF
C325	24232103	CD, 0.01μF, +80%, −20%
C326	24538474	PF, 0.47μF
C378	24590104	PF, 0.1μF
C401	24617920	EL, 120μF, ±20%, 25V
C402	24353241	CD, 240pF
C403	24797339	EL, 3.3μF, ±20%, 50V
C405	24590183	PF, 0.018μF
C406	24590183	PF, 0.018μF
C407	24590273	PF, 0.027μF
C408	24794221	EL, 220μF, ±20%, 16V
C409	24232103	CD, 0.01μF, +80%, −20%
C410	24082261	PF, 5600pF, 100V
C411	24435330	CD, 33pF, 500V
C412	24590182	PF, 1800pF
C413	24214391	CD, 390pF, ±10%, 500V
C414	24212471	CD, 470pF, ±10%
C416	24709100	EL, 10μF, ±20%, 200V
C417	24214821	CD, 820pF, ±10%, 500V
C421	24095755	PF, 0.47μF, 200V
C422	24829473	PF, 0.047μF, 400V
⚠C423	24095755	PF, 0.47μF, 200V
C430	24538474	PF, 0.47μF
⚠C440	24082349	PF, 7000pF, ±3%, 1500V
C441	24214221	CD, 220pF, ±10%, 500V
C443	24214221	CD, 220pF, ±10%, 500V
C444	24082287	PF, 5100pF, ±3%, 1800V
C445	24095903	PF, 0.056μF, ±10%, 250V
C446	24095887	PF, 0.01μF, ±3%, 630V
C447	24700479	EL, 4.7μF, ±20%, 250V
C448	24640962	EL, 33μF, ±20%, 200V

Location No.	Part No.	Description
C449	24667102	EL, 1000μF, ±20%, 25V
C450	24794471	EL, 470μF, ±20%, 16V
⚠C463	24212222	CD, 2200pF, ±10%
C464	24082727	PF, 1.5μF, 200V
C466	24095751	PF, 0.33μF, 200V
C470	24794220	EL, 22μF, ±20%, 16V
C471	24538474	PF, 0.47μF
C501	24794331	EL, 330μF, ±20%, 16V
C502	24474181	CD, 180pF, ±10%
C503	24436181	CD, 180pF
C504	24353150	CD, 15pF
C505	24590273	PF, 0.027μF
C507	24590103	PF, 0.01μF
C508	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
C509	24353330	CD, 33pF
C510	24232103	CD, 0.01μF, +80%, −20%
C511	24232103	CD, 0.01μF, +80%, −20%
C512	24353200	CD, 20pF
C513	24232103	CD, 0.01μF, +80%, −20%
C515	24797220	EL, 22μF, ±20%, 50V
C516	24590104	PF, 0.1μF
C517	24590104	PF, 0.1μF
C518	24232103	CD, 0.01μF, +80%, −20%
C520	24797478	EL, 0.47μF, ±20%, 50V
C521	24206478	EL, 0.47μF, 50V
C522	24206478	EL, 0.47μF, 50V
C523	24206478	EL, 0.47μF, 50V
C524	24794100	EL, 10μF, ±20%, 16V
C525	24436820	CD, 82pF
C526	24436820	CD, 82pF
C527	24436820	CD, 82pF
C529	24353300	CD, 30pF
C531	24794100	EL, 10μF, ±20%, 16V
C532	24436391	CD, 390pF
C533	24436121	CD, 120pF
C534	24436101	CD, 100pF
C535	24797100	EL, 10μF, ±20%, 50V
C536	24797478	EL, 0.47μF, ±20%, 50V
C537	24794471	EL, 470μF, ±20%, 16V
C540	24436221	CD, 220pF
C541	24436221	CD, 220pF
C542	24436221	CD, 220pF
C608	24794100	EL, 10μF, ±20%, 16V
C609	24797010	EL, 1μF, ±20%, 50V
C610	24797010	EL, 1μF, ±20%, 50V
C611	24794100	EL, 10μF, ±20%, 16V
C612	24794100	EL, 10μF, ±20%, 16V
C613	24794100	EL, 10μF, ±20%, 16V
C614	24794101	EL, 100μF, ±20%, 16V
C615	24232103	CD, 0.01μF, +80%, −20%
C616	24794471	EL, 470μF, ±20%, 16V
C617	24232103	CD, 0.01μF, +80%, −20%
C618	24794100	EL, 10μF, ±20%, 16V
C619	24793221	EL, 220μF, ±20%, 10V
C620	24797010	EL, 1μF, ±20%, 50V
C622	24205479	EL, 4.7μF, ±20%, 35V
C624	24794100	EL, 10μF, ±20%, 16V
C625	24797339	EL, 3.3μF, ±20%, 50V
C626	24797470	EL, 47μF, ±20%, 50V
C627	24473470	CD, 47pF
C628	24797339	EL, 3.3μF, ±20%, 50V
C629	24794100	EL, 10μF, ±20%, 16V
C631	24232103	CD, 0.01μF, +80%, −20%

Location No.	Part No.	Description
C641	24797229	EL, 2.2μF, ±20%, 50V
C660	24797478	EL, 0.47μF, ±20%, 50V
C661	24794100	EL, 10μF, ±20%, 16V
C662	24473470	CD, 47pF
C663	24797339	EL, 3.3μF, ±20%, 50V
C664	24797100	EL, 10μF, ±20%, 50V
C665	24590104	PF, 0.1μF
C666	24590104	PF, 0.1μF
C667	24205479	EL, 4.7μF, ±20%, 35V
C668	24793221	EL, 220μF, ±20%, 10V
C672	24667470	EL, 47μF, ±20%, 25V
C673	24797010	EL, 1μF, ±20%, 50V
C674	24590103	PF, 0.01μF
C675	24797010	EL, 1μF, ±20%, 50V
C677	24590103	PF, 0.01μF
C678	24795470	EL, 47μF, ±20%, 25V
C679	24797010	EL, 1μF, ±20%, 50V
C680	24795470	EL, 47μF, ±20%, 25V
C681	24795470	EL, 47μF, ±20%, 25V
C682	24796101	EL, 100μF, ±20%, 35V
C683	24796102	EL, 1000μF, ±20%, 35V
C684	24538124	PF, 0.12μF
C687	24668102	EL, 1000μF, ±20%, 35V
C688	24538124	PF, 0.12μF
⚠C801	24082318	PF, 0.1μF, ±20%, AC250V
⚠C802	24094656	CD, 2200pF, ±20%, AC400V
⚠C803	24094656	CD, 2200pF, ±20%, AC400V
⚠C804	24082318	PF, 0.1μF, ±20%, AC250V
C807	24092281	CD, 4700pF, ±20%, AC250V
C808	24092281	CD, 4700pF, ±20%, AC250V
C809	24086037	EL, 270μF, ±20%, 400V
C810	24667331	EL, 330μF, ±20%, 25V
C811	24214471	CD, 470pF, ±10%, 500V
C812	24676220	EL, 22μF, ±20%, 100V
C813	24590222	PF, 2200pF
C814	24214471	CD, 470pF, ±10%, 500V
C815	24095931	PF, 2200pF, 125OV
C816	24795470	EL, 47μF, ±20%, 25V
C817	24092341	CD, 470pF, ±10%, 2kV
C818	24214471	CD, 470pF, ±10%, 500V
C819	24797470	EL, 47μF, ±20%, 50V
C820	24794470	EL, 47μF, ±20%, 16V
C827	24794471	EL, 470μF, ±20%, 16V
C828	24212101	CD, 100pF, ±10%
C829	24796222	EL, 2200μF, ±20%, 35V
C830	24092337	CD, 220pF, ±10%, 2kV
C831	24086953	EL, 220μF, ±20%, 160V
C833	24797100	EL, 10μF, ±20%, 50V
C835	24797479	EL, 4.7μF, ±20%, 50V
C836	24797100	EL, 10μF, ±20%, 50V
C837	24797100	EL, 10μF, ±20%, 50V
C840	24214471	CD, 470pF, ±10%, 500V
C846	24590104	PF, 0.1μF
C849	24214471	CD, 470pF, ±10%, 500V
C901	24700100	EL, 10μF, ±20%, 250V
C902	24095923	PF, 4700pF, 125OV
CA01	24474101	CD, 100pF, ±10%
CA02	24474101	CD, 100pF, ±10%
CA03	24474101	CD, 100pF, ±10%
CA04	24474101	CD, 100pF, ±10%
CA09	24797478	EL, 0.47μF, ±20%, 50V
CA10	24212102	CD, 1000pF, ±10%
CA11	24212102	CD, 1000pF, ±10%
CA12	24794102	EL, 1000μF, ±20%, 16V

Location No.	Part No.	Description
CA13	24794100	EL, 10μF, ±20%, 16V
CA15	24590104	PF, 0.1μF
CA16	24797100	EL, 10μF, ±20%, 50V
CA21	24232103	CD, 0.01μF, +80%, −20%
CA22	24797010	EL, 1μF, ±20%, 50V
CA29	24232103	CD, 0.01μF, +80%, −20%
CA31	24473300	CD, 30pF
CA32	24473300	CD, 30pF
CA33	24212102	CD, 1000pF, ±10%
CA36	24590104	PF, 0.1μF
CA90	24538474	PF, 0.47μF
CA91	24212102	CD, 1000pF, ±10%
CA92	24590104	PF, 0.1μF
CB01	24474101	CD, 100pF, ±10%
CB09	24794330	EL, 33μF, ±20%, 16V
CB10	24797010	EL, 1μF, ±20%, 50V
CB11	24436181	CD, 180pF
CB12	24212561	CD, 560pF, ±10%
CB13	24212472	CD, 4700pF, ±10%
CD01	24796220	EL, 22μF, ±20%, 35V
CD11	24676339	EL, 3.3μF, ±20%, 100V
CF02	24797100	EL, 10μF, ±20%, 50V
CF03	24232103	CD, 0.01μF, +80%, −20%
CF05	24212102	CD, 1000pF, ±10%
CF06	24353150	CD, 15pF
CF07	24232103	CD, 0.01μF, +80%, −20%
CF08	24590104	PF, 0.1μF
CF09	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
CF10	24794330	EL, 33μF, ±20%, 16V
CF11	24232103	CD, 0.01μF, +80%, −20%
CF16	24353080	CD, 8pF, ±0.25pF
CF17	24797100	EL, 10μF, ±20%, 50V
CF18	24590104	PF, 0.1μF
CF19	24794101	EL, 100μF, ±20%, 16V
CF20	24473220	CD, 22pF
CM01	24436221	CD, 220pF
CM02	24436221	CD, 220pF
CM03	24340180	CD, 18pF
CM04	24340180	CD, 18pF
CM05	24232103	CD, 0.01μF, +80%, −20%
CM06	24357270	CD, 27pF
CM07	24590563	PF, 0.056μF
CM08	24232103	CD, 0.01μF, +80%, −20%
CM09	24232103	CD, 0.01μF, +80%, −20%
CM10	24473270	CD, 27pF
CM12	24590104	PF, 0.1μF
CN01	24436270	CD, 27pF
CN02	24436270	CD, 27pF
CN03	24232103	CD, 0.01μF, +80%, −20%
CN04	24436101	CD, 100pF
CN11	24232103	CD, 0.01μF, +80%, −20%
CN12	24436560	CD, 56pF
CN13	24436150	CD, 15pF
CN14	24212102	CD, 1000pF, ±10%
CN16	24590273	PF, 0.027μF
CS01	24436470	CD, 47pF
CS02	24436470	CD, 47pF
CS03	24232103	CD, 0.01μF, +80%, −20%
CS04	24797470	EL, 47μF, ±20%, 50V
CS05	24436471	CD, 470pF
CS06	24436471	CD, 470pF
CS07	24232103	CD, 0.01μF, +80%, −20%
CS08	24353680	CD, 68pF

Location No.	Part No.	Description
CS09	24232103	CD, 0.01μF, +80%, −20%
CS10	24232103	CD, 0.01μF, +80%, −20%
CS11	24232103	CD, 0.01μF, +80%, −20%
CS12	24590682	PF, 6800pF
CS13	24797100	EL, 10μF, ±20%, 50V
CS14	24232103	CD, 0.01μF, +80%, −20%
CV01	24797100	EL, 10μF, ±20%, 50V
CV02	24206010	EL, 1μF, 50V
CV03	24797100	EL, 10μF, ±20%, 50V
CV04	24206010	EL, 1μF, 50V
CV05	24232103	CD, 0.01μF, +80%, −20%
CV06	24797100	EL, 10μF, ±20%, 50V
CV07	24797010	EL, 1μF, ±20%, 50V
CV08	24797010	EL, 1μF, ±20%, 50V
CV09	24232103	CD, 0.01μF, +80%, −20%
CV10	24797100	EL, 10μF, ±20%, 50V
CV11	24797100	EL, 10μF, ±20%, 50V
CV12	24797100	EL, 10μF, ±20%, 50V
CV13	24232103	CD, 0.01μF, +80%, −20%
CV14	24232103	CD, 0.01μF, +80%, −20%
CV15	24797100	EL, 10μF, ±20%, 50V
CV16	24797100	EL, 10μF, ±20%, 50V
CV17	24797100	EL, 10μF, ±20%, 50V
CV18	24797220	EL, 22μF, ±20%, 50V
CV19	24232103	CD, 0.01μF, +80%, −20%
CV20	24212271	CD, 270pF, ±10%
CV21	24212271	CD, 270pF, ±10%
CV23	24793471	EL, 470μF, ±20%, 10V
CV24	24212271	CD, 270pF, ±10%
CV25	24212271	CD, 270pF, ±10%
CV26	24212271	CD, 270pF, ±10%
CV27	24212271	CD, 270pF, ±10%
CV31	24793471	EL, 470μF, ±20%, 10V
CV32	24797101	EL, 100μF, ±20%, 50V
CV33	24085981	EL, 10μF, ±20%, 16V, Non-Polar
CV34	24797100	EL, 10μF, ±20%, 50V
CV35	24085981	EL, 10μF, ±20%, 16V, Non-Polar
CV36	24797100	EL, 10μF, ±20%, 50V
CV41	24232103	CD, 0.01μF, +80%, −20%
CV46	24794101	EL, 100μF, ±20%, 16V
CV72	24794100	EL, 10μF, ±20%, 16V
CV73	24794100	EL, 10μF, ±20%, 16V
CV80	24212182	CD, 1800pF, ±10%
CV81	24212182	CD, 1800pF, ±10%
CV82	24232103	CD, 0.01μF, +80%, −20%
CV83	24794470	EL, 47μF, ±20%, 16V
CV84	24797470	EL, 47μF, ±20%, 50V
CW01	24797100	EL, 10μF, ±20%, 50V
CW02	24232103	CD, 0.01μF, +80%, −20%
CW05	24232103	CD, 0.01μF, +80%, −20%
CX02	24797478	EL, 0.47μF, ±20%, 50V
CX03	24797478	EL, 0.47μF, ±20%, 50V
CX04	24797478	EL, 0.47μF, ±20%, 50V
CX05	24206010	EL, 1μF, 50V
CX06	24206010	EL, 1μF, 50V
CX07	24206010	EL, 1μF, 50V
CX08	24797100	EL, 10μF, ±20%, 50V
CX09	24797010	EL, 1μF, ±20%, 50V
CX10	24797010	EL, 1μF, ±20%, 50V
CX11	24797010	EL, 1μF, ±20%, 50V

Location No.	Part No.	Description
RESISTORS		
R194	24366473	CF, 47k ohm
R195	24366105	CF, 1M ohm
R196	24366224	CF, 220k ohm
R208	24366152	CF, 1500 ohm
R211	24366102	CF, 1k ohm
R212	24366103	CF, 10k ohm
R213	24366103	CF, 10k ohm
R214	24366182	CF, 1800 ohm
R215	24366152	CF, 1500 ohm
R216	24366333	CF, 33k ohm
R217	24366101	CF, 100 ohm
R218	24366472	CF, 4700 ohm
R219	24366472	CF, 4700 ohm
R220	24366473	CF, 47k ohm
R221	24366473	CF, 47k ohm
R222	24366473	CF, 47k ohm
R223	24366472	CF, 4700 ohm
R224	24366682	CF, 6800 ohm
R228	24366182	CF, 1800 ohm
R231	24366102	CF, 1k ohm
R233	24366152	CF, 1500 ohm
R237	24366561	CF, 560 ohm
R242	24366153	CF, 15k ohm
R243	24366103	CF, 10k ohm
R244	24366203	CF, 20k ohm
R245	24366622	CF, 6200 ohm
R246	24366103	CF, 10k ohm
R247	24366101	CF, 100 ohm
R252	24066597	VR, 1k ohm, 1/10W
R253	24066597	VR, 1k ohm, 1/10W
R255	24066601	VR, 20k ohm, 1/10W
R260	24366333	CF, 33k ohm
R261	24366153	CF, 15k ohm
R262	24366153	CF, 15k ohm
R266	24366153	CF, 15k ohm
R267	24366153	CF, 15k ohm
R268	24366184	CF, 180k ohm
R269	24366101	CF, 100 ohm
R270	24366822	CF, 8200 ohm
R281	24366104	CF, 100k ohm
R282	24366221	CF, 220 ohm
R283	24366391	CF, 390 ohm
R285	24366473	CF, 47k ohm
R286	24366473	CF, 47k ohm
R287	24366223	CF, 22k ohm
R289	24366473	CF, 47k ohm
R290	24366103	CF, 10k ohm
R301	24366221	CF, 220 ohm
R302	24366274	CF, 270k ohm
R303	24366563	CF, 56k ohm
R304	24366243	CF, 24k ohm
R305	24366151	CF, 150 ohm
R306	24366473	CF, 47k ohm
R307	24366624	CF, 620k ohm
R308	24366102	CF, 1k ohm
R309	24383511	OMF, 510 ohm, 2W
R311	24366473	CF, 47k ohm
R312	24366204	CF, 200k ohm
R313	24366104	CF, 100k ohm
R314	24366105	CF, 1M ohm
R315	24366155	CF, 1.5M ohm
R316	24366154	CF, 150k ohm
R317	24366103	CF, 10k ohm

Location No.	Part No.	Description
R318	24366101	CF, 100 ohm
R319	24366101	CF, 100 ohm
R320	24366101	CF, 100 ohm
R321	24366102	CF, 1k ohm
R322	24321159	MF, 1.5 ohm, 1/2W
R323	24322688	MF, 0.68 ohm, 1W
⚠R327	24339569	MF, 5.6 ohm, 2W
R329	24366223	CF, 22k ohm
R334	24383751	OMF, 750 ohm, 2W
R340	24382271	OMF, 270 ohm, 1W
R342	24366103	CF, 10k ohm
R343	24366103	CF, 10k ohm
R344	24366392	CF, 3900 ohm
R345	24366103	CF, 10k ohm
R346	24366103	CF, 10k ohm
R402	24366273	CF, 27k ohm
R403	24366272	CF, 2700 ohm
R404	24552472	OMF, 4700 ohm, 1/2W
R405	24366431	CF, 430 ohm
R406	24366221	CF, 220 ohm
R407	24366131	CF, 130 ohm
R408	24366562	CF, 5600 ohm
R409	24366204	CF, 200k ohm
R410	24552472	OMF, 4700 ohm, 1/2W
R411	24366561	CF, 560 ohm
R413	24366151	CF, 150 ohm
R415	24382272	OMF, 2700 ohm, 1W
R416	24510562	Cement, 5600 ohm, 5W
R421	24366104	CF, 100k ohm
R430	24366272	CF, 2700 ohm
R431	24366102	CF, 1k ohm
R432	24366473	CF, 47k ohm
R433	24366333	CF, 33k ohm
R434	24366123	CF, 12k ohm
R440	24366103	CF, 10k ohm
R441	24366103	CF, 10k ohm
R442	24382102	OMF, 1k ohm, 1W
R444	24322398	MF, 0.39 ohm, 1W
⚠R446	24533151	FR, 150 ohm, 2W
⚠R448	24338338	MF, 0.33 ohm, 1W
R452	24069547	VR, 5k ohm, 0.08W, CC
R470	24322568	MF, 0.56 ohm, 1W
R471	24366101	CF, 100 ohm
R472	24376393	CF, 39k ohm, 1/2W
R474	24366331	CF, 330 ohm
R475	24366102	CF, 1k ohm
R477	24366153	CF, 15k ohm
R501	24366561	CF, 560 ohm
R502	24366334	CF, 330k ohm
R504	24366391	CF, 390 ohm
R507	24366822	CF, 8200 ohm
R508	24366561	CF, 560 ohm
R509	24366203	CF, 20k ohm
R511	24366202	CF, 2k ohm
R512	24366182	CF, 1800 ohm
R513	24366122	CF, 1200 ohm
R514	24366562	CF, 5600 ohm
R515	24366221	CF, 220 ohm
R516	24366221	CF, 220 ohm
R517	24366221	CF, 220 ohm
R518	24366475	CF, 4.7M ohm
R520	24366102	CF, 1k ohm
R522	24366185	CF, 1.8M ohm
R523	24366332	CF, 3300 ohm

Location No.	Part No.	Description
R533	24366162	CF, 1600 ohm
R534	24366101	CF, 100 ohm
R535	24366471	CF, 470 ohm
R536	24366103	CF, 10k ohm
R537	24366162	CF, 1600 ohm
R538	24366471	CF, 470 ohm
R539	24366162	CF, 1600 ohm
R541	24366821	CF, 820 ohm
R542	24366201	CF, 200 ohm
R543	24366103	CF, 10k ohm
R544	24366101	CF, 100 ohm
R547	24366102	CF, 1k ohm
R548	24366102	CF, 1k ohm
R549	24366102	CF, 1k ohm
R551	24066955	VR, 1k ohm, 1/10W
R557	24066600	VR, 10k ohm, 1/10W
R558	24066600	VR, 10k ohm, 1/10W
R559	24066600	VR, 10k ohm, 1/10W
R565	24366560	CF, 56 ohm
R566	24366560	CF, 56 ohm
R567	24366560	CF, 56 ohm
R568	24366102	CF, 1k ohm
R570	24366272	CF, 2700 ohm
R571	24366272	CF, 2700 ohm
R572	24366272	CF, 2700 ohm
R580	24366391	CF, 390 ohm
R581	24366331	CF, 330 ohm
R591	24383153	OMF, 15k ohm, 2W
R592	24383153	OMF, 15k ohm, 2W
R593	24383153	OMF, 15k ohm, 2W
R602	24366101	CF, 100 ohm
R603	24366101	CF, 100 ohm
R604	24366394	CF, 390k ohm
R608	24382680	OMF, 68 ohm, 1W
R612	24366221	CF, 220 ohm
R614	24366472	CF, 4700 ohm
R616	24366102	CF, 1k ohm
R617	24366102	CF, 1k ohm
R618	24366303	CF, 30k ohm
R619	24366682	CF, 6800 ohm
R620	24366103	CF, 10k ohm
R622	24366103	CF, 10k ohm
R623	24366103	CF, 10k ohm
R625	24366103	CF, 10k ohm
R626	24366682	CF, 6800 ohm
R627	24366303	CF, 30k ohm
R628	24366273	CF, 27k ohm
R641	24366103	CF, 10k ohm
R660	24366432	CF, 4300 ohm
R661	24366103	CF, 10k ohm
R662	24366103	CF, 10k ohm
R663	24366104	CF, 100k ohm
R664	24366104	CF, 100k ohm
R665	24366103	CF, 10k ohm
R666	24366103	CF, 10k ohm
R667	24366103	CF, 10k ohm
R668	24366103	CF, 10k ohm
R669	24366912	CF, 9100 ohm
R670	24366103	CF, 10k ohm
R673	24366102	CF, 1k ohm
R674	24366102	CF, 1k ohm
R675	24366102	CF, 1k ohm
R681	24366103	CF, 10k ohm
R682	24366229	CF, 2.2 ohm

Location No.	Part No.	Description
R684	24366229	CF, 2.2 ohm
R687	24366103	CF, 10k ohm
R688	24366104	CF, 100k ohm
R689	24366103	CF, 10k ohm
⚠R801	24004914	Metal-Glazed Resistor, 5.6M ohm, 1/2W
R803	24382683	OMF, 68k ohm, 1W
R805	24366101	CF, 100 ohm
R810	24366122	CF, 1200 ohm
R812	24552103	OMF, 10k ohm, 1/2W
R813	24366272	CF, 2700 ohm
R815	24552102	OMF, 1k ohm, 1/2W
R816	24382180	OMF, 18 ohm, 1W
R817	24322278	MF, 0.27 ohm, 1W
R818	24321829	MF, 8.2 ohm, 1/2W
R819	24366472	CF, 4700 ohm
R820	24366101	CF, 100 ohm
R825	24366472	CF, 4700 ohm
R832	24321228	MF, 0.22 ohm, 1/2W
R842	24366681	CF, 680 ohm
R843	24366821	CF, 820 ohm
R848	24552332	OMF, 3300 ohm, 1/2W
R860	24366681	CF, 680 ohm
R863	24366102	CF, 1k ohm
R864	24321478	MF, 0.47 ohm, 1/2W
R865	24366681	CF, 680 ohm
R866	24366471	CF, 470 ohm
R867	24366103	CF, 10k ohm
R868	24366472	CF, 4700 ohm
R870	24383183	OMF, 18k ohm, 2W
R872	24569339	Cement, 3.3 ohm, 10W
⚠R878	24531560	FR, 56 ohm, 1/2W
R879	24366472	CF, 4700 ohm
⚠R884	24531120	FR, 12 ohm, 1/2W
⚠R890	24000875	PTC Thermistor, 18 ohm, ±20%, 290V
R893	24366103	CF, 10k ohm
R901	24552272	OMF, 2700 ohm, 1/2W
R902	24552272	OMF, 2700 ohm, 1/2W
R903	24552272	OMF, 2700 ohm, 1/2W
⚠R920	24000929	FR, 1.5 ohm, 2W
RA01	24366223	CF, 22k ohm
RA02	24366103	CF, 10k ohm
RA03	24366103	CF, 10k ohm
RA05	24366103	CF, 10k ohm
RA06	24366103	CF, 10k ohm
RA07	24366222	CF, 2200 ohm
RA10	24366473	CF, 47k ohm
RA11	24366102	CF, 1k ohm
RA12	24366103	CF, 10k ohm
RA13	24366103	CF, 10k ohm
RA14	24366223	CF, 22k ohm
RA15	24366103	CF, 10k ohm
RA16	24366101	CF, 100 ohm
RA18	24366101	CF, 100 ohm
RA19	24366102	CF, 1k ohm
RA20	24366331	CF, 330 ohm
RA21	24366331	CF, 330 ohm
RA22	24366103	CF, 10k ohm
RA23	24366473	CF, 47k ohm
RA24	24366162	CF, 1600 ohm
RA25	24366162	CF, 1600 ohm
RA26	24366162	CF, 1600 ohm
RA27	24366223	CF, 22k ohm

Location No.	Part No.	Description
RA28	24366223	CF, 22k ohm
RA29	24366562	CF, 5600 ohm
RA30	24366103	CF, 10k ohm
RA31	24366103	CF, 10k ohm
RA32	24366223	CF, 22k ohm
RA33	24366103	CF, 10k ohm
RA34	24366223	CF, 22k ohm
RA35	24366102	CF, 1k ohm
RA36	24366223	CF, 22k ohm
RA40	24366223	CF, 22k ohm
RA41	24366223	CF, 22k ohm
RA60	24366392	CF, 3900 ohm
RA61	24366102	CF, 1k ohm
RA62	24366103	CF, 10k ohm
RA63	24366103	CF, 10k ohm
RA66	24366102	CF, 1k ohm
RA67	24366153	CF, 15k ohm
RA68	24366473	CF, 47k ohm
RA69	24366223	CF, 22k ohm
RA79	24366153	CF, 15k ohm
RA80	24366103	CF, 10k ohm
RA81	24366102	CF, 1k ohm
RA84	24366392	CF, 3900 ohm
RA85	24366392	CF, 3900 ohm
RA86	24366472	CF, 4700 ohm
RA87	24366472	CF, 4700 ohm
RA90	24366271	CF, 270 ohm
RA92	24366102	CF, 1k ohm
RA94	24366392	CF, 3900 ohm
RA95	24366392	CF, 3900 ohm
RA97	24366332	CF, 3300 ohm
RA98	24366682	CF, 6800 ohm
RA99	24366203	CF, 20k ohm
RB01	24366103	CF, 10k ohm
RB02	24366332	CF, 3300 ohm
RB03	24366103	CF, 10k ohm
RB04	24366103	CF, 10k ohm
RB05	24366332	CF, 3300 ohm
RB06	24366333	CF, 33k ohm
RB10	24366182	CF, 1800 ohm
RB11	24366471	CF, 470 ohm
RB12	24366393	CF, 39k ohm
RB13	24366564	CF, 560k ohm
RB14	24366123	CF, 12k ohm
RB15	24366392	CF, 3900 ohm
RB16	24366392	CF, 3900 ohm
RB19	24366223	CF, 22k ohm
⚠RD01	24000211	FR, 15 ohm, 1/2W
RD02	24323229	MF, 2.2 ohm, 2W
RD03	24366562	CF, 5600 ohm
RD04	24552102	OMF, 1k ohm, 1/2W
RD05	24552332	OMF, 3300 ohm, 1/2W
RD06	24366242	CF, 2400 ohm
RD07	24366273	CF, 27k ohm
RD08	24366114	CF, 110k ohm
RD09	24366153	CF, 15k ohm
RD10	24366153	CF, 15k ohm
RF01	24366332	CF, 3300 ohm
RF03	24366100	CF, 10 ohm
RF04	24366273	CF, 27k ohm
RF05	24366472	CF, 4700 ohm
RF06	24366103	CF, 10k ohm
RF07	24366103	CF, 10k ohm
RF08	24366101	CF, 100 ohm

Location No.	Part No.	Description
RF09	24366102	CF, 1k ohm
RF12	24366103	CF, 10k ohm
RF13	24366101	CF, 100 ohm
RF14	24366101	CF, 100 ohm
RF15	24366392	CF, 3900 ohm
RF16	24366103	CF, 10k ohm
RF17	24366332	CF, 3300 ohm
RF18	24366682	CF, 6800 ohm
RF19	24366101	CF, 100 ohm
RF20	24366102	CF, 1k ohm
RF21	24366102	CF, 1k ohm
RF22	24366101	CF, 100 ohm
RF23	24366102	CF, 1k ohm
RM03	24366182	CF, 1800 ohm
RM04	24366242	CF, 2400 ohm
RM05	24366221	CF, 220 ohm
RM06	24366471	CF, 470 ohm
RM26	24366153	CF, 15k ohm
RN01	24366101	CF, 100 ohm
RN02	24366152	CF, 1500 ohm
RN04	24366303	CF, 30k ohm
RN07	24366153	CF, 15k ohm
RN08	24366185	CF, 1.8M ohm
RN09	24366104	CF, 100k ohm
RN10	24366153	CF, 15k ohm
RN11	24366103	CF, 10k ohm
RN12	24366122	CF, 1200 ohm
RN13	24366103	CF, 10k ohm
RN14	24366222	CF, 2200 ohm
RN15	24366473	CF, 47k ohm
RN16	24366473	CF, 47k ohm
RN18	24366473	CF, 47k ohm
RN19	24366475	CF, 4.7M ohm
RN20	24366103	CF, 10k ohm
RN21	24366473	CF, 47k ohm
RN22	24366473	CF, 47k ohm
RN24	24366332	CF, 3300 ohm
RN25	24366105	CF, 1M ohm
RN26	24366103	CF, 10k ohm
RN27	24366473	CF, 47k ohm
RN28	24366473	CF, 47k ohm
RN29	24366473	CF, 47k ohm
RN30	24366473	CF, 47k ohm
RN34	24366104	CF, 100k ohm
RS01	24366561	CF, 560 ohm
RS02	24366563	CF, 56k ohm
RS03	24366563	CF, 56k ohm
RS04	24366102	CF, 1k ohm
RS05	24366102	CF, 1k ohm
RS07	24366221	CF, 220 ohm
RS08	24366102	CF, 1k ohm
RS10	24366472	CF, 4700 ohm
RS11	24552431	OMF, 430 ohm, 1/2W
RS12	24366223	CF, 22k ohm
RS13	24366473	CF, 47k ohm
RS14	24366472	CF, 4700 ohm
RS15	24366223	CF, 22k ohm
RS16	24366473	CF, 47k ohm
RS17	24366472	CF, 4700 ohm
RS18	24366223	CF, 22k ohm
RS19	24366473	CF, 47k ohm
RS20	24366105	CF, 1M ohm
RS21	24366272	CF, 2700 ohm
RS22	24366222	CF, 2200 ohm

Location No.	Part No.	Description
RS23	24366102	CF, 1k ohm
RS24	24366563	CF, 56k ohm
RS25	24366563	CF, 56k ohm
RS26	24366102	CF, 1k ohm
RS27	24366101	CF, 100 ohm
RS31	24366223	CF, 22k ohm
RS32	24366472	CF, 4700 ohm
RS33	24366472	CF, 4700 ohm
RS36	24366104	CF, 100k ohm
RS37	24366102	CF, 1k ohm
RV01	24366101	CF, 100 ohm
RV02	24366102	CF, 1k ohm
RV03	24366472	CF, 4700 ohm
RV04	24366472	CF, 4700 ohm
RV05	24366101	CF, 100 ohm
RV06	24366102	CF, 1k ohm
RV07	24366101	CF, 100 ohm
RV08	24366102	CF, 1k ohm
RV09	24366104	CF, 100k ohm
RV10	24366101	CF, 100 ohm
RV11	24366472	CF, 4700 ohm
RV12	24366472	CF, 4700 ohm
RV13	24366101	CF, 100 ohm
RV14	24366101	CF, 100 ohm
RV15	24366103	CF, 10k ohm
RV16	24366104	CF, 100k ohm
RV17	24366223	CF, 22k ohm
RV18	24366473	CF, 47k ohm
RV19	24366101	CF, 100 ohm
RV20	24366103	CF, 10k ohm
RV21	24366101	CF, 100 ohm
RV22	24366101	CF, 100 ohm
RV23	24366471	CF, 470 ohm
RV24	24552331	OMF, 330 ohm, 1/2W
⚠RV25	24019261	FR, 47 ohm, ±2%, 1/4W
RV26	24366222	CF, 2200 ohm
RV27	24366104	CF, 100k ohm
RV28	24366104	CF, 100k ohm
RV29	24366471	CF, 470 ohm
RV30	24366152	CF, 1500 ohm
RV31	24366910	CF, 91 ohm
RV32	24366910	CF, 91 ohm
RV34	24366151	CF, 150 ohm
RV36	24366101	CF, 100 ohm
RV37	24366104	CF, 100k ohm
RV38	24366104	CF, 100k ohm
RV39	24366101	CF, 100 ohm
RV40	24366680	CF, 68 ohm
RV41	24366103	CF, 10k ohm
RV42	24366750	CF, 75 ohm
RV43	24366620	CF, 62 ohm
RV44	24366620	CF, 62 ohm
RV45	24366620	CF, 62 ohm
RV47	24366101	CF, 100 ohm
RV48	24382680	OMF, 68 ohm, 1W
RV49	24366102	CF, 1k ohm
RV60	24382560	OMF, 56 ohm, 1W
RV61	24366130	CF, 13 ohm
RV62	24366130	CF, 13 ohm
RV63	24366130	CF, 13 ohm
RV64	24366104	CF, 100k ohm
RV65	24366104	CF, 100k ohm
RV66	24366104	CF, 100k ohm
RV67	24366104	CF, 100k ohm

Location No.	Part No.	Description
RV68	24366104	CF, 100k ohm
RV69	24366104	CF, 100k ohm
RV71	24366101	CF, 100 ohm
RV72	24366103	CF, 10k ohm
RV73	24366680	CF, 68 ohm
RV74	24366472	CF, 4700 ohm
RV75	24366472	CF, 4700 ohm
RV76	24366101	CF, 100 ohm
RV77	24366152	CF, 1500 ohm
RV78	24366103	CF, 10k ohm
RV79	24366101	CF, 100 ohm
RV80	24366103	CF, 10k ohm
RV81	24366822	CF, 8200 ohm
RV82	24366103	CF, 10k ohm
RV83	24366822	CF, 8200 ohm
RV85	24366183	CF, 18k ohm
RV86	24366912	CF, 9100 ohm
RV87	24366103	CF, 10k ohm
RV88	24366221	CF, 220 ohm
RV91	24366821	CF, 820 ohm
RW01	24366223	CF, 22k ohm
RW02	24366333	CF, 33k ohm
RW03	24366103	CF, 10k ohm
RW04	24366223	CF, 22k ohm
RW05	24366333	CF, 33k ohm
RW06	24366103	CF, 10k ohm
RW07	24552561	OMF, 560 ohm, 1/2W
RW08	24366103	CF, 10k ohm
RW09	24366123	CF, 12k ohm
RW10	24366103	CF, 10k ohm
RW11	24366103	CF, 10k ohm
RW12	24366123	CF, 12k ohm
RW13	24366103	CF, 10k ohm
RW14	24366123	CF, 12k ohm
RW15	24366123	CF, 12k ohm
RW21	24366101	CF, 100 ohm
RW22	24366101	CF, 100 ohm
RW23	24366101	CF, 100 ohm
RW24	24366101	CF, 100 ohm
RW25	24366681	CF, 680 ohm
RW26	24366681	CF, 680 ohm
RX01	24366102	CF, 1k ohm
RX02	24366101	CF, 100 ohm
RX03	24366101	CF, 100 ohm
RX04	24366103	CF, 10k ohm
RX05	24366103	CF, 10k ohm
RX06	24366332	CF, 3300 ohm
RX07	24366122	CF, 1200 ohm
RX08	24366122	CF, 1200 ohm
RX09	24366122	CF, 1200 ohm
RX10	24366101	CF, 100 ohm
RX12	24366102	CF, 1k ohm
RX13	24366332	CF, 3300 ohm
RX14	24366103	CF, 10k ohm
RX15	24366473	CF, 47k ohm
RX19	24366201	CF, 200 ohm
RX20	24366152	CF, 1500 ohm
RX21	24366201	CF, 200 ohm
RX22	24366201	CF, 200 ohm
RX27	24366102	CF, 1k ohm

COILS & TRANSFORMERS

L201	23289100	Coil, Peaking, TRF4100AF
L202	23289470	Coil, Peaking, TRF4470AF

Location No.	Part No.	Description
L301	23103859	Coil (Ferrite Bead), TEM2011
L302	23289101	Coil, Peaking, TRF4101AF
L315	23238714	Coil, Peaking, TRF4100AJ
L405	23221685	Coil, Choke, TLN3193
L406	23103859	Coil (Ferrite Bead), TEM2011
L412	23221684	Coil, Choke, TLN3191D
L414	23103859	Coil (Ferrite Bead), TEM2011
L421	23211897	Coil, Choke, AT4043/100T
L422	23221894	Coil, Choke, TLN3063
L441	23233948	Coil, Linearity, TLN2137G
⚠L462	----------	DY, Supplied with V901
L503	23238714	Coil, Peaking, TRF4100AJ
L551	23250972	Coil, 1H-Delay Matching, TRF5418D
L590	23289100	Coil, Peaking, TRF4100AF
L591	23289100	Coil, Peaking, TRF4100AF
L682	23289100	Coil, Peaking, TRF4100AF
L810	23103859	Coil (Ferrite Bead), TEM2011
L811	23103859	Coil (Ferrite Bead), TEM2011
L812	23103859	Coil (Ferrite Bead), TEM2011
L821	23222694	Coil, Width, TLN2026
L823	23221747	Coil, Choke, TRF9253D
L826	23221746	Coil, Choke, TLN3155D
L829	23103859	Coil (Ferrite Bead), TEM2011
L842	23103859	Coil (Ferrite Bead), TEM2011
L860	23222694	Coil, Width, TLN2026
L866	23289229	Coil, Peaking, TRF42R2AF
⚠L901	23200203	Coil, Degaussing, TSB-2330AR
LA01	23289109	Coil, Peaking, TRF41R0AF
LA12	23221803	Coil, Choke, TLN3040D
LB01	23262001	Coil, IF, TRF1166D
LD02	23221896	Coil, Choke, TLN3061
LF02	23238712	Coil, Peaking, TRF4150AJ
LF03	23238720	Coil, Peaking, TRF4339AJ
LF04	23238562	Coil, Peaking, TRF4109AJ
LF05	23238714	Coil, Peaking, TRF4100AJ
LF06	23238714	Coil, Peaking, TRF4100AJ
LF07	23238714	Coil, Peaking, TRF4100AJ
LF08	23238714	Coil, Peaking, TRF4100AJ
LF09	23238506	Coil, Peaking, TRF4229AJ
LF10	23238506	Coil, Peaking, TRF4229AJ
LF11	23103859	Coil (Ferrite Bead), TEM2011
LF12	23238506	Coil, Peaking, TRF4229AJ
LF13	23238714	Coil, Peaking, TRF4100AJ
LM01	23262797	Coil, IF, TRF1093D
LM02	23250865	Coil, IF, TRF5414DA
LM03	23250865	Coil, IF, TRF5414DA
LM04	23262798	Coil, IF, TRF1092D
LN01	23289180	Coil, Peaking, TRF4470AF
LS01	23289120	Coil, Peaking, TRF4120AF
LS02	23232946	Coil, Variable, TRF3073D
LV01	23289220	Coil, Peaking, TRF4220AF
⚠T401	23224336	Transformer, Horiz. Drive, TLN1083
⚠T461	23236454	Transformer, Flyback, TFB4117AR
⚠T801	23211891	Line Filter, TRF3164
⚠T803	23217214	Transformer, Converter, TPW3283AR

SEMICONDUCTORS

IC301	B0378560	IC, TA8427K
IC302	B0384683	IC, TA8859AP
IC408	23319314	IC, μPC2412HF

Location No.	Part No.	Description
IC501	B0383827	IC, TA8759BN
IC601	B0383935	IC, TA8776N
IC602	23319808	IC, M5218AP
IC603	23319808	IC, M5218AP
IC606	23319808	IC, M5218AP
IC670	B0377305	IC, TA8218AH
IC835	23318299	IC, L78MR05
ICA01	23904778	IC, CXP85332-109
ICA02	23904762	IC, ST24C04CB6
ICA10	23319935	IC, MM1096BS
ICF02	23904779	IC, SAA5281P/E
ICS01	B0383400	IC, TA8710S
ICV01	B0383720	IC, TA8747N
ICX01	23119139	IC, AN5862K
Q118	A6002060	Transistor, RN1206
Q119	A6041860	Transistor, 2SK117-GR
Q205	A6317440	Transistor, 2SC1815-Y
Q208	A6317440	Transistor, 2SC1815-Y
Q213	A6317440	Transistor, 2SC1815-Y
Q214	A6342206	Transistor, 2SC2878-A(TE)
Q215	A6342206	Transistor, 2SC2878-A(TE)
Q216	A6002040	Transistor, RN1204
Q240	A6317440	Transistor, 2SC1815-Y
Q340	A6317440	Transistor, 2SC1815-Y
Q402	A678971D	Transistor, 2SC1569 FA-5
⚠Q404	A6872801	Transistor, 2SD2253
Q430	A6317440	Transistor, 2SC1815-Y
Q470	A6547250	Transistor, 2SA1320
Q505	A6363200	Transistor, 2SC3619
Q506	A6317440	Transistor, 2SC1815-Y
Q507	A6363200	Transistor, 2SC3619
Q508	A6317440	Transistor, 2SC1815-Y
Q509	A6363200	Transistor, 2SC3619
Q510	A6317440	Transistor, 2SC1815-Y
Q514	A6509127	Transistor, 2SA562TM-O
Q516	A6321265	Transistor, 2SC2120-Y(TE)
Q604	A6534053	Transistor, 2SA1015-Y(TE)
Q608	A6010040	Transistor, RN2004
Q621	A6342206	Transistor, 2SC2878-A(TE)
Q622	A6342206	Transistor, 2SC2878-A(TE)
Q671	A6342206	Transistor, 2SC2878-A(TE)
Q673	A6342206	Transistor, 2SC2878-A(TE)
Q801	23904247	IC, STR-S6708
Q802	23314141	Transistor, 2SC3852
⚠Q826	A8643106	Photo Coupler, TLP621(GR)
⚠Q827	A6907751	IC, S1854
Q828	A6317440	Transistor, 2SC1815-Y
Q831	A6317440	Transistor, 2SC1815-Y
Q836	A6534053	Transistor, 2SA1015-Y(TE)
Q861	23314141	Transistor, 2SC3852
Q870	A6333346	Transistor, 2SC2655-Y(C)
Q871	A6317440	Transistor, 2SC1815-Y
QA06	A6317440	Transistor, 2SC1815-Y
QB01	A6317440	Transistor, 2SC1815-Y
QB02	A6317440	Transistor, 2SC1815-Y
QB11	A6317440	Transistor, 2SC1815-Y
QB12	A6534053	Transistor, 2SA1015-Y(TE)
QD01	A6625365	Transistor, 2SB688-O(BS)
QD02	A6317440	Transistor, 2SC1815-Y
QD03	A6317440	Transistor, 2SC1815-Y
QF04	23314794	Transistor, 2PC1815Y
QF05	23314794	Transistor, 2PC1815Y
QF06	23314794	Transistor, 2PC1815Y
QN02	A6534053	Transistor, 2SA1015-Y(TE)

Location No.	Part No.	Description
QN03	A6534053	Transistor, 2SA1015-Y(TE)
QN04	A6342206	Transistor, 2SC2878-A(TE)
QN05	A6342206	Transistor, 2SC2878-A(TE)
QN07	A6000020	Transistor, RN1002
QN08	A6317440	Transistor, 2SC1815-Y
QN13	A6342206	Transistor, 2SC2878-A(TE)
QN15	A6342206	Transistor, 2SC2878-A(TE)
QS02	A6317440	Transistor, 2SC1815-Y
QS03	A6317440	Transistor, 2SC1815-Y
QS04	A6317440	Transistor, 2SC1815-Y
QS05	A6317440	Transistor, 2SC1815-Y
QS07	A6317440	Transistor, 2SC1815-Y
QS08	A6000060	Transistor, RN1006
QV03	A6342206	Transistor, 2SC2878-A(TE)
QV04	A6319311	Transistor, 2SC1959-Y(TE)
QV05	A6534053	Transistor, 2SA1015-Y(TE)
QV06	A6534053	Transistor, 2SA1015-Y(TE)
QV07	A6317440	Transistor, 2SC1815-Y
QW01	A6534053	Transistor, 2SA1015-Y(TE)
QW02	A6534053	Transistor, 2SA1015-Y(TE)
QW03	A6534053	Transistor, 2SA1015-Y(TE)
QW04	A6534053	Transistor, 2SA1015-Y(TE)
QX02	A6534077	Transistor, 2SA1015-GR(T)
QX03	A6734585	Transistor, 2SC752(G)TM-O
QX04	23314794	Transistor, 2PC1815Y
QX05	23314794	Transistor, 2PC1815Y
QX06	A6317440	Transistor, 2SC1815-Y
QX07	A6317440	Transistor, 2SC1815-Y
QX09	A6317440	Transistor, 2SC1815-Y
QX10	A6317440	Transistor, 2SC1815-Y
QY09	A6000020	Transistor, RN1002
D108	23115878	Diode, Zener, μPC574J, (L)
D201	A7150041	Diode, 1SS104
D203	23115599	Diode, 1N4148
D204	23115599	Diode, 1N4148
D205	23115599	Diode, 1N4148
D246	23115599	Diode, 1N4148
D301	23118479	Diode, BYD33J
D302	23118479	Diode, BYD33J
D303	23115599	Diode, 1N4148
D304	23316291	Diode, Zener, UZ3.0BSB
D320	23118822	Diode, ERB12-02
D321	23118822	Diode, ERB12-02
D332	23316794	Diode, SC570A
D401	23316333	Diode, Zener, UZ12BSB
D402	23316348	Diode, Zener, UZ20BSB
D403	23316333	Diode, Zener, UZ12BSB
D406	23118479	Diode, BYD33J
D408	23118052	Diode, RU4Z
D410	23316321	Diode, Zener, UZ8.2BSB
D471	A7801205	SCR, SF0R3G42
D474	23316342	Diode, Zener, UZ16BSB
D475	23316333	Diode, Zener, UZ12BSB
D590	23115599	Diode, 1N4148
D591	23115599	Diode, 1N4148
D592	23115599	Diode, 1N4148
D594	23115599	Diode, 1N4148
D595	23115599	Diode, 1N4148
D596	23115599	Diode, 1N4148
D601	23115599	Diode, 1N4148
D640	23115599	Diode, 1N4148
D641	23115599	Diode, 1N4148
D670	23115599	Diode, 1N4148
D671	23115599	Diode, 1N4148

Location No.	Part No.	Description
D674	23115599	Diode, 1N4148
D675	23115599	Diode, 1N4148
D801	23118037	Diode, RBV406M LF-B
D802	23118479	Diode, BYD33J
D803	23118479	Diode, BYD33J
D804	23316315	Diode, Zener, UZ6.8BSB
D805	23115599	Diode, 1N4148
D806	23118479	Diode, BYD33J
D807	23118479	Diode, BYD33J
D808	23118479	Diode, BYD33J
D809	23316309	Diode, Zener, UZ5.6BSB
D810	23115599	Diode, 1N4148
D811	23115599	Diode, 1N4148
D812	23115599	Diode, 1N4148
D813	23118479	Diode, BYD33J
D814	23115599	Diode, 1N4148
D815	23316339	Diode, Zener, UZ15BSB
D816	23316311	Diode, Zener, UZ6.2BSA
D825	23115599	Diode, 1N4148
D826	23115599	Diode, 1N4148
D830	23118052	Diode, RU4Z
D831	23118479	Diode, BYD33J
D832	23118451	Diode, RU-4A
D844	23316332	Diode, Zener, UZ12BSA
D848	23316302	Diode, Zener, UZ4.7BSB
D861	23316310	Diode, Zener, UZ5.6BSC
D874	23316307	Diode, Zener, UZ5.1BSC
D875	23115599	Diode, 1N4148
D878	23316308	Diode, Zener, UZ5.6BSA
DA02	23316312	Diode, Zener, UZ6.2BSB
DA03	23316312	Diode, Zener, UZ6.2BSB
DA04	23115599	Diode, 1N4148
DA05	23115599	Diode, 1N4148
DA06	23115599	Diode, 1N4148
DA15	23316312	Diode, Zener, UZ6.2BSB
DA96	23316312	Diode, Zener, UZ6.2BSB
DA98	23316312	Diode, Zener, UZ6.2BSB
DA99	23316312	Diode, Zener, UZ6.2BSB
DD01	23118479	Diode, BYD33J
DD02	23316582	Diode, ERC20-06
DD03	23118479	Diode, BYD33J
DD04	23115599	Diode, 1N4148
DD05	23316332	Diode, Zener, UZ12BSA
DD06	23316309	Diode, Zener, UZ5.6BSB
DD07	23316309	Diode, Zener, UZ5.6BSB
DE50	23358504	Diode (LED), SCL003URC3FX, Red
DN01	23115599	Diode, 1N4148
DS01	23115636	Diode, 1SS110
DS02	23115636	Diode, 1SS110
DS03	23115636	Diode, 1SS110
DV01	23316327	Diode, Zener, UZ10BSB
DV03	23316327	Diode, Zener, UZ10BSB
DV04	23316327	Diode, Zener, UZ10BSB
DV05	23316327	Diode, Zener, UZ10BSB
DV06	23316327	Diode, Zener, UZ10BSB
DV07	23316327	Diode, Zener, UZ10BSB
DV08	23316324	Diode, Zener, UZ9.1BSB
DV40	23115599	Diode, 1N4148
DV44	23316302	Diode, Zener, UZ4.7BSB
DW01	23115599	Diode, 1N4148
DW02	23115599	Diode, 1N4148
DW03	23115599	Diode, 1N4148
DW04	23115599	Diode, 1N4148

Location No.	Part No.	Description
DW05	23316299	Diode, Zener, UZ4.3BSB
DW06	23316304	Diode, Zener, UZ4.7BSC
DW07	23316336	Diode, Zener, UZ13BSB
DW08	23316336	Diode, Zener, UZ13BSB
DX03	23115599	Diode, 1N4148
DX04	23115599	Diode, 1N4148
DX05	23115599	Diode, 1N4148
DX06	23115599	Diode, 1N4148
DX07	23115599	Diode, 1N4148
DX08	23115599	Diode, 1N4148
DX09	23115599	Diode, 1N4148
DX10	23115599	Diode, 1N4148
DX11	23115599	Diode, 1N4148
DX12	23316302	Diode, Zener, UZ4.7BSB
DX13	23115599	Diode, 1N4148
MISCELLANEOUS		
⚠F801	23144473	Fuse, 5.0A
F801A	23165433	Holder, Fuse
⚠F803	23144874	Fuse, 0.8A
F803A	23165433	Holder, Fuse
H005	23148219	Module, VIF FR, MVGS41A
K901	23120220	Remote Sensor, IR-9109A-K
P410A	23902750	Connector, 7P
P410B	23368518	Connector, 7P
P411A	23902750	Connector, 7P
P411B	23368518	Connector, 7P
P412A	23902750	Connector, 7P
P412B	23368518	Connector, 7P
P413A	23902751	Connector, 8P
P413B	23368519	Connector, 8P
P501A	23368130	Connector, 10P
P501B	23902213	Connector, 10P
⚠P801	23176697	Power Cord
PH01	23365598	21 Pin Connector
PH02	23365598	21 Pin Connector
PH20	23363252	Pin Jack, Yellow
PH21	23365508	Jack, Phono, 2P
PH23	23365546	Jack, 4P
PS01A	23368130	Connector, 10P
PS01B	23902213	Connector, 10P
S202	23344333	Switch, Lever, 1C3P
⚠S801	23145434	Switch, Power, 2C2P
SA01	23145428	Switch, Push, 1C1Px4
SA02	23145430	Switch, Push, 1C1P
⚠V901A	23902067	Socket, CRT, 10P
W201	23250878	Delay Line, TRF2083
W501	23250950	Coil, 1H-Delay Line, DL711
W661	23351086	Speaker, SPK-1358, 80x120mm, 8 ohm
W662	23351086	Speaker, SPK-1358, 80x120mm, 8 ohm
X401	23153721	Ceramic Resonator, 503kHz, TCR1023
X501	23153979	Crystal, 4.43MHz
X502	23153961	Crystal, 3.58MHz
XA01	23153845	Ceramic Resonator, 4MHz, TCR1015
XS01	23153900	Ceramic Resonator, 500kHz, TCR1010
ZF01	23153012	Crystal, 27MHz
ZP31	23144452	Protector, PRF1000
ZP81	23144451	Protector, PRF5000

Location No.	Part No.	Description
ZS01	23107948	Ceramic Filter, 6.0MHz, SFE6.0MBF
ZS02	23107855	Ceramic Filter, 5.5MHz, TCF1031
ZS03	23107949	Ceramic Filter, 6.5MHz, SFE6.5MBF
ZS04	23107948	Ceramic Filter, 6.0MHz, SFE6.0MBF
ZZ01	23107849	Ceramic Video Trap, 4.43MHz, TCF1032
ZZ02	23107787	Ceramic Video Trap, 3.58MHz, TCF1044
PC BOARD ASSEMBLIES		
U902A	23703796	Signal Board, PB5215-1
U902B	23703797	Chroma-1 Board, PB5215-2
U903	23703795	Power/Def/Audio Board, PB5216
U904	23702082	CRT Drive Board, PB3893
U905	23702083	SIF Converter Board, PB3894
PICTURE TUBE		
⚠V901	23312386	Picture Tube, A66ECY13X31
TUNER		
H001	23321069	Tuner, VHF/UHF, EG463L
ACCESSORIES		
K902	23120267	Remote Hand Unit, CT-9678
AT03	23305085	Battery Cover
Y101	23562288	Owner's Manual, French, 2832TF

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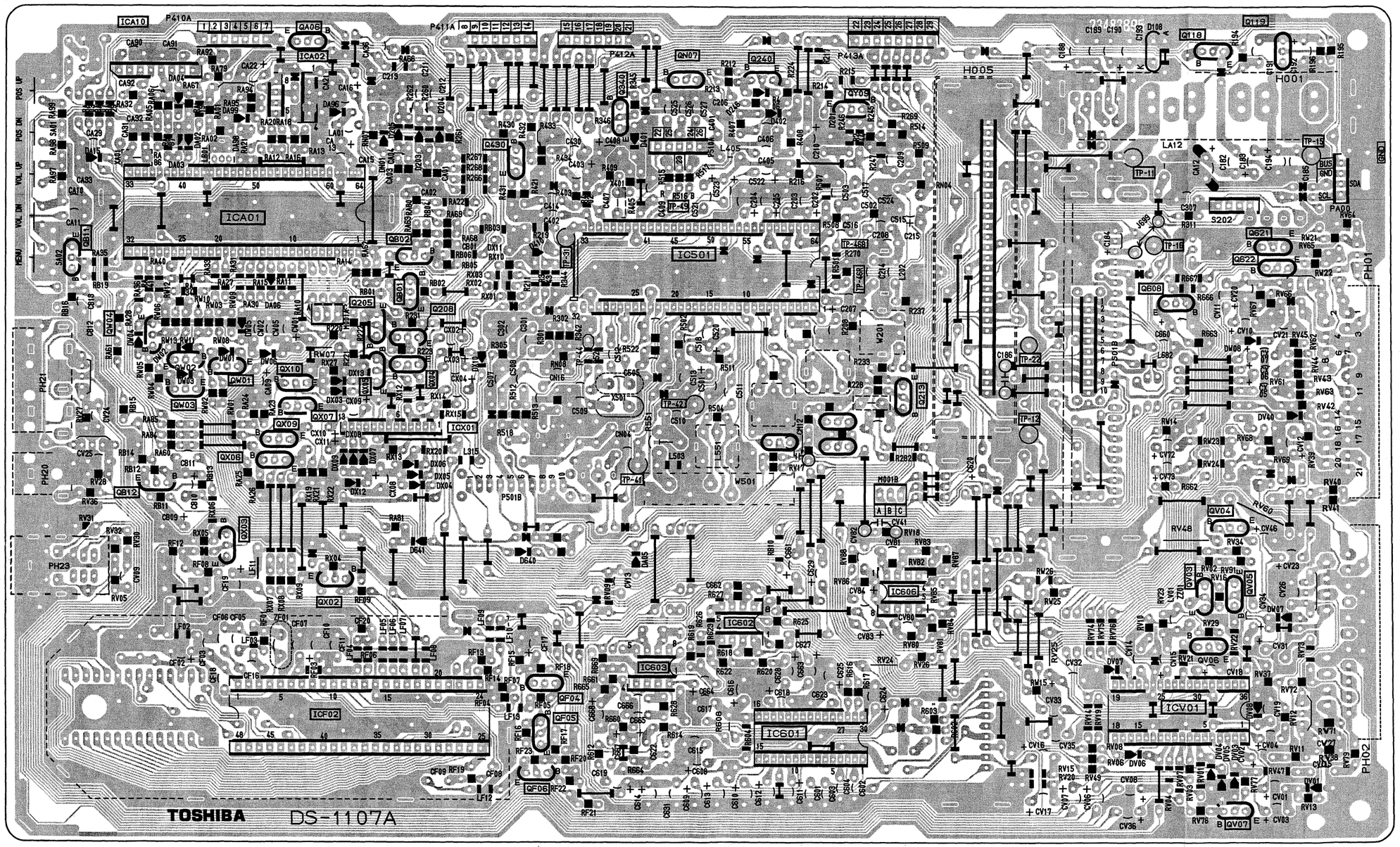
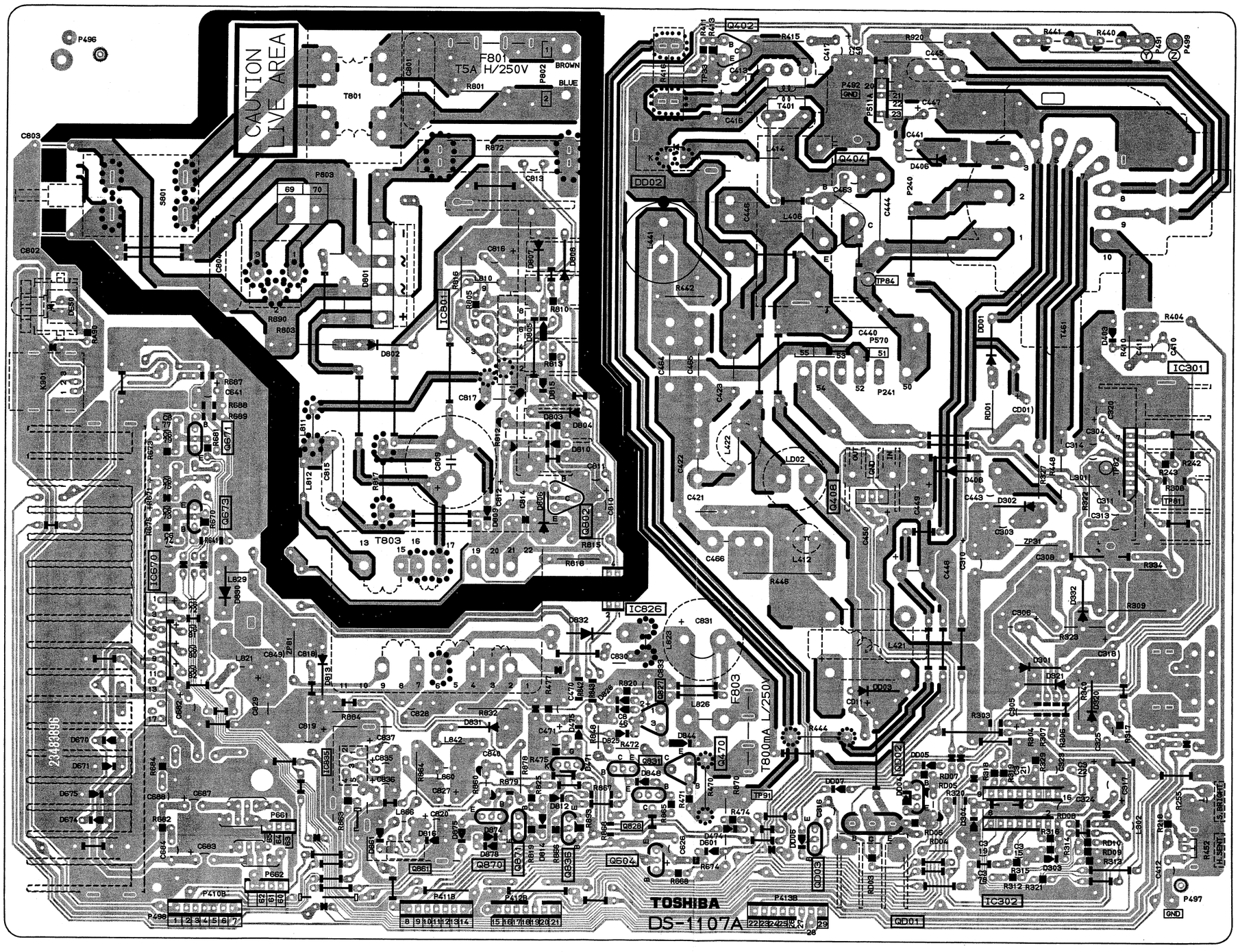
SIGNAL BOARD PB5215-1

BOTTOM (FOIL) SIDE



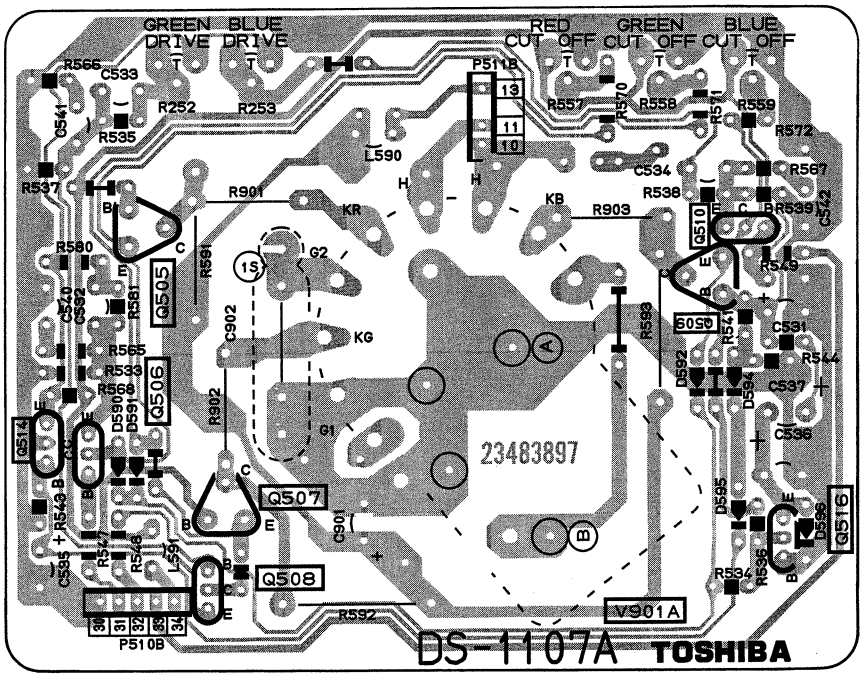
POWER/DEF/AUDIO BOARD PB5216

BOTTOM (FOIL) SIDE



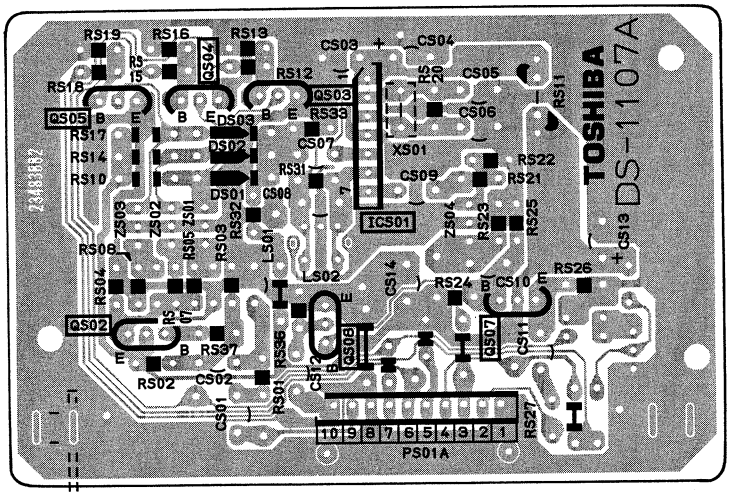
CRT DRIVE BOARD PB3893

BOTTOM (FOIL) SIDE



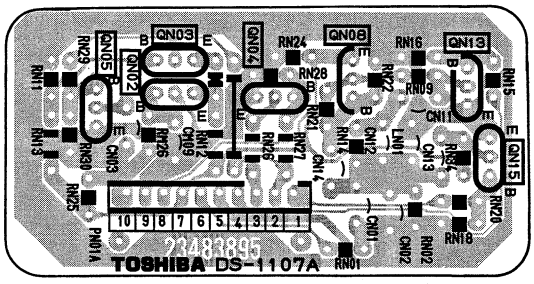
SIF BOARD PB3894

BOTTOM (FOIL) SIDE



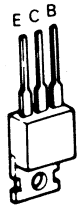
CHROMA-1 BOARD PB5215-2

BOTTOM (FOIL) SIDE

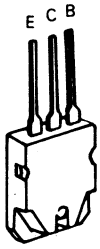


TERMINAL VIEW OF TRANSISTORS

① 2SC1569



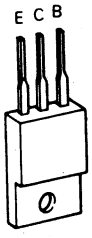
② 2SC3927(A)



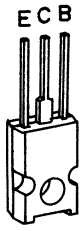
③ 2SC2580-C
2SC2655

④ 2SA933S
2SA1015-Y
2SA1320-Y
2SC752GTM
2SC1685-Q
2SC1740S
2SC1815-N
2SC1959-Y
2SC2120-Y
2SC2878-A

⑤ 2SB1186A
2SC3852
2SD2253

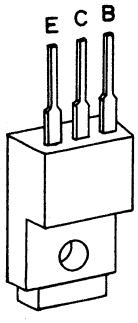


⑥ 2SC3619



⑦ RN1203
RN1204
RN1206
RN2004

⑧ 2SB1186A
2SD1763A



2832TF

SCHEMATIC DIAGRAM (1/2)

CAUTION: The international hazard symbols " ⚠ " in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position-of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltage readings were obtained using a high impedance digital voltmeter.
2. (—) or ground lead of instruments should be connected to the ground marked (⊥) in the shematic on checking Non-isolated circuit surrounded by mark but should be connected to the points marked (⏚) on checking isolated circuit.
3. The voltage readings may vary as much as ±20%.
4. Check that the Tuning, A.F.C., Brightness, Contrast and Colour controls are adjusted for the best picture, making sure that the Contrast, Brightness and Colour controls are set near to their mid-positions.
5. The waveforms were taken using a standard colour bar signal and were observed using a wide band oscilloscope via a low capacity probe.

NOTES:

1. This circuit diagram is subject to change without notice.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000.
2. Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

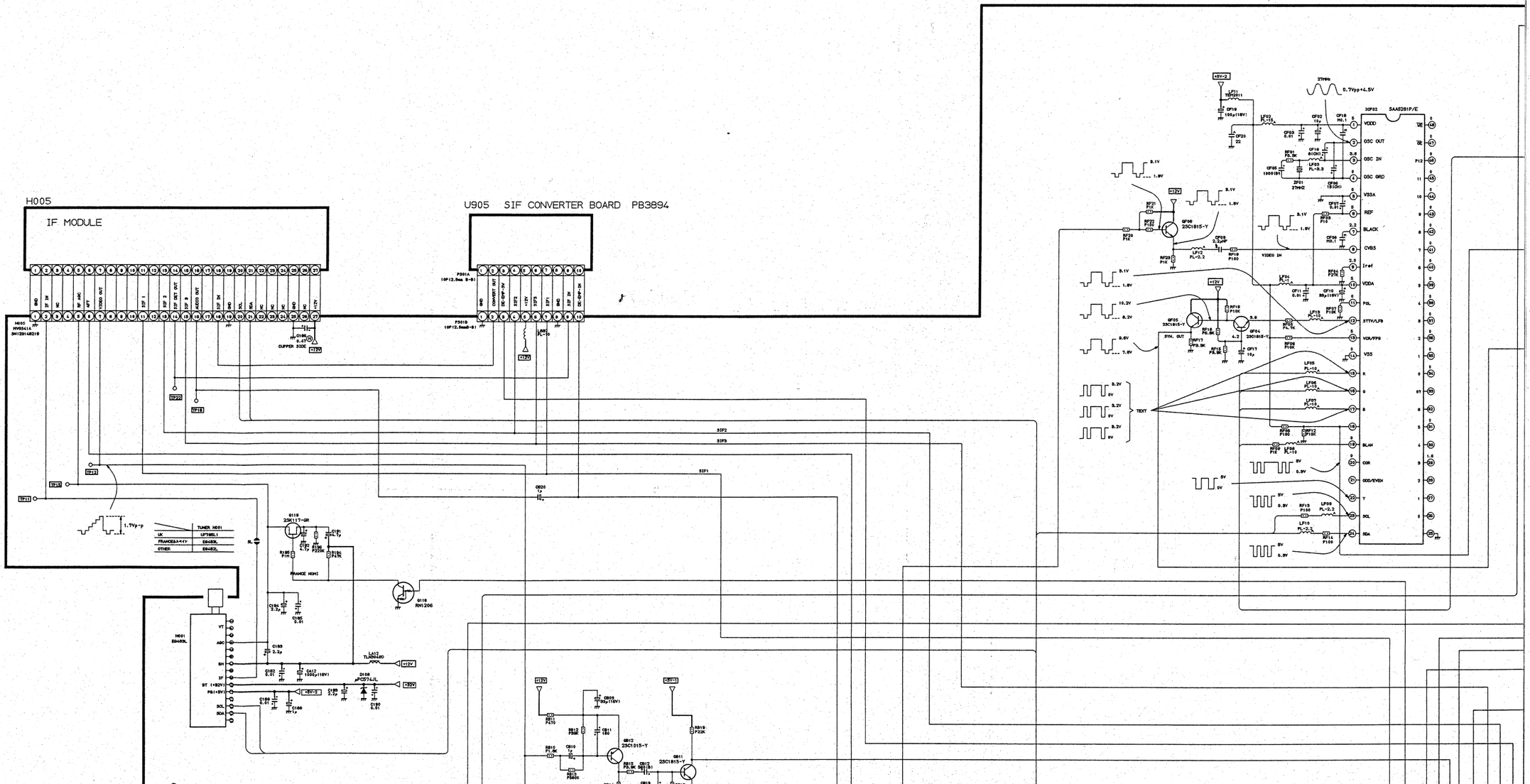
GROUNDING SYMBOL

1. ⊥: Non isolated ground, ⏚ : Isolated ground.

RESISTOR

Prefixed to v

T
Carbo
Oxide M
Ins. Car
Wire
Cement co
Fusib



2832TF

SCHEMATIC DIAGRAM (1/2)

CAUTION: The international hazard symbols " ⚠ " in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position-of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltage readings were obtained using a high impedance digital voltmeter.
2. (—) or ground lead of instruments should be connected to the ground marked (⊥) in the shematic on checking Non-isolated circuit surrounded by mark but should be connected to the points marked (⏚) on checking isolated circuit.
3. The voltage readings may vary as much as ±20%.
4. Check that the Tuning, A.F.C., Brightness, Contrast and Colour controls are adjusted for the best picture, making sure that the Contrast, Brightness and Colour controls are set near to their mid-positions.
5. The waveforms were taken using a standard colour bar signal and were observed using a wide band oscilloscope via a low capacity probe.

NOTES:

1. This circuit diagram is subject to change without notice.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000.
2. Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

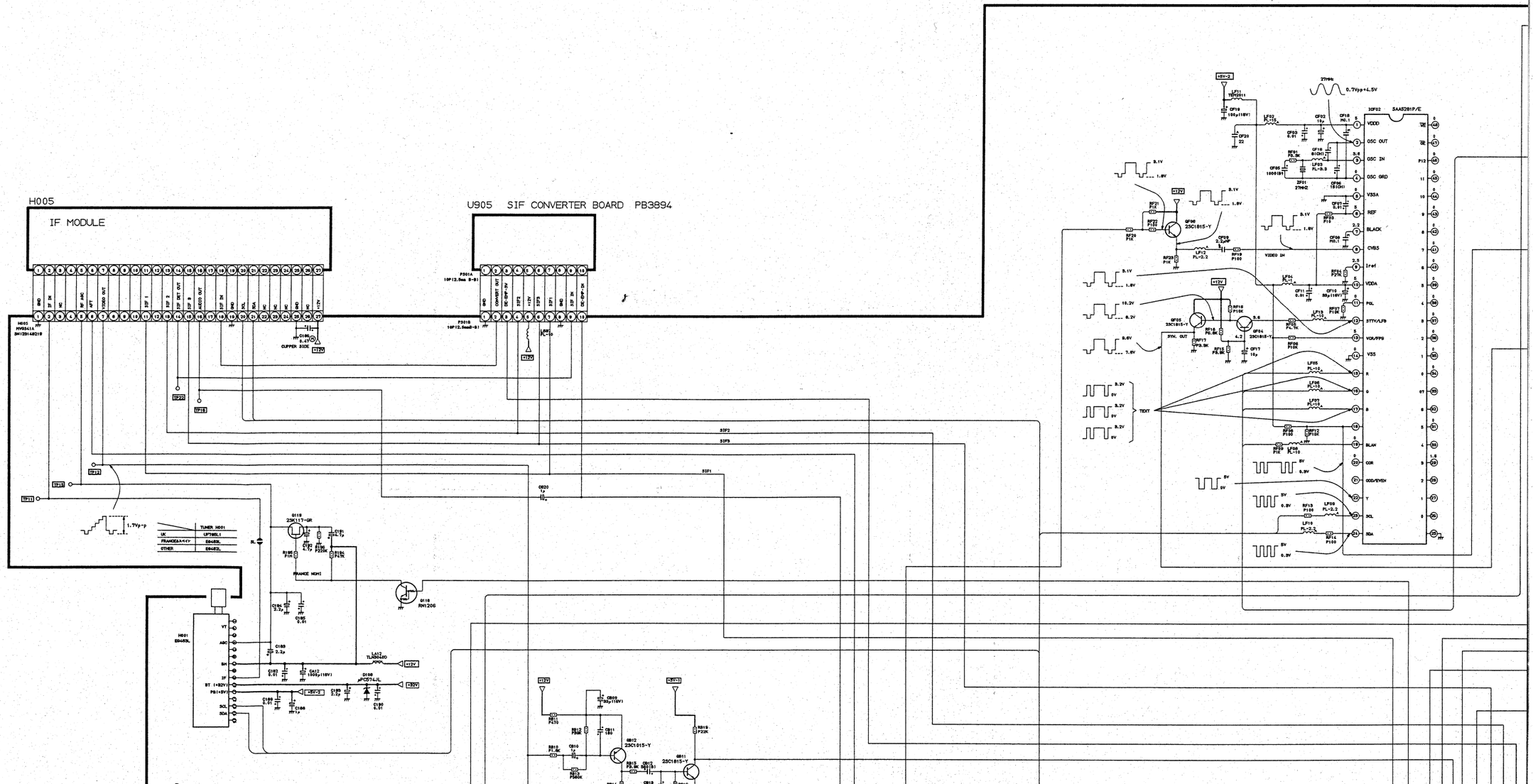
GROUNDING SYMBOL

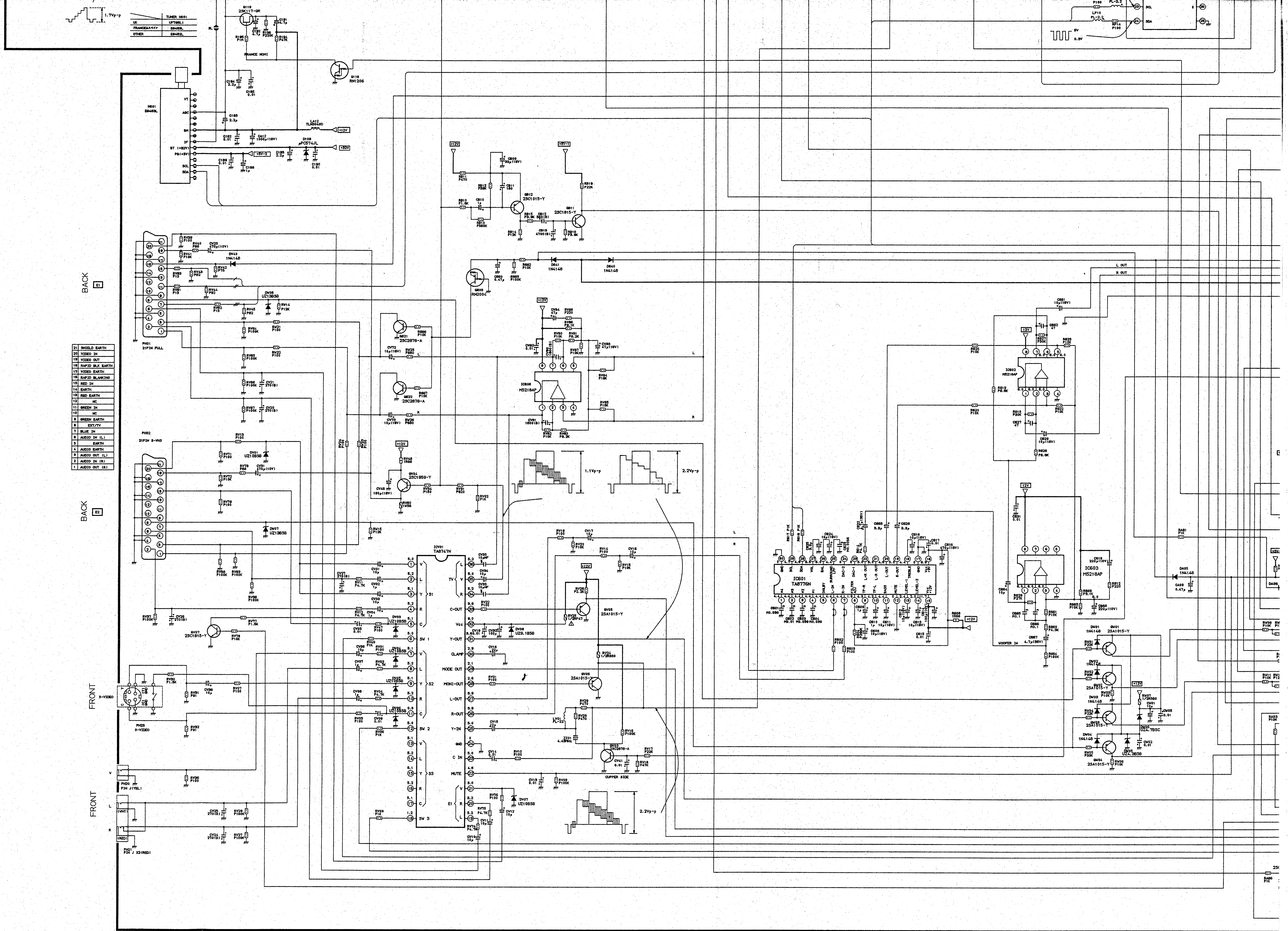
1. ⊥: Non isolated ground, ⏚ : Isolated ground.

RESISTOR

Prefixed to v

T
Carbo
Oxide M
Ins. Car
Wire
Cement co
Fusib




TUNER H001
UK UF785L1
FRANCE&スペイン E0463L
OTHER E0462L
1.7Vp-p
H001 E0463L
Q119 2SK117-GR
Q118 RN1206
FRANCE NOMI
LA12 TLN3040D
D108 μPC574JL
+12V
+32V
+5V-2
+5V-1
BACK E1
BACK E2
PH01 21PIN FULL
PH02 21PIN S-VHS
21 SHIELD EARTH
20 VIDEO IN
19 VIDEO OUT
18 RAPID BLK EARTH
17 VIDEO EARTH
16 RAPID BLANKING
15 RED IN
14 EARTH
13 RED EARTH
12 NC
11 GREEN IN
10 NC
9 GREEN EARTH
8 EXT/TV
7 BLUE IN
6 AUDIO IN (L)
5 EARTH
4 AUDIO EARTH
3 AUDIO OUT (L)
2 AUDIO IN (R)
1 AUDIO OUT (R)
Q812 2SC1015-Y
Q811 2SC1815-Y
Q808 RN2004
D641 1N4148
D640 1N4148
Q621 2SC2878-A
Q622 2SC2878-A
IC606 M5218AP
QV04 2SC1959-Y
1.1Vp-p
2.2Vp-p
ICV01 TA8747N
QV05 2SA1015-Y
QV06 2SA1015-Y
QV03 2SC2878-A
CUPPER SIDE
QV07 2SC1815-Y
FRONT
S-VIDEO
PH23 S-VIDEO
PH20 PIN J(YEL)
PH21 PIN J X2(RED)
L OUT
R OUT
IC602 M5218AP
IC603 M5218AP
IC601 TA8776N
WOOFER IN
QW01 2SA1015-Y
QW02 2SA1015-Y
QW03 2SA1015-Y
QW04 2SA1015-Y
DA05 1N4148
SCL
SDA

1 are expressed in

1 are expressed in

RESISTORS

Prefixed to values:

TYPE	MARK
Carbon Comp.	S
Oxide Metal Film	R
Ins. Carbon Film	P
Wire Wound	W
Cement covered W.W.	NO MARK
Fusible Res.	FR

Suffixes to values:

TOLERANCE	MARK
±1%	(F)
±2%	(G)

Suffixes to VR values:

LAW	MARK
Linear	(B)
'C' Curve Characteristic	(C)

Rating Markings:

WATTAGE	MARK
1/6W	
1/4W	
1/2W	
1W	1
2W	2

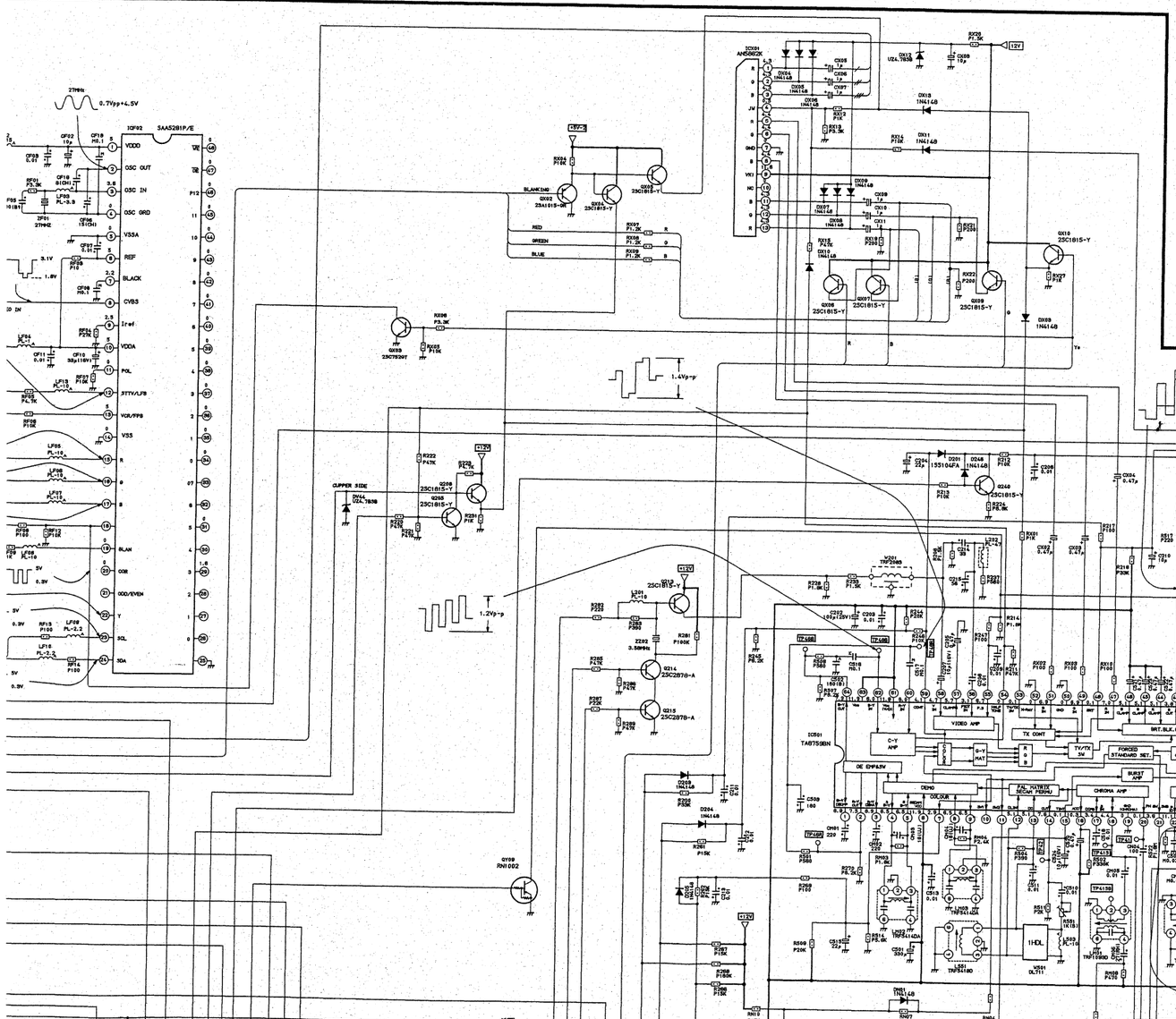
WATTAGE	MARK
3W	3
5W	5
10W	10
15W	15
20W	20
25W	25

CAPACITORS

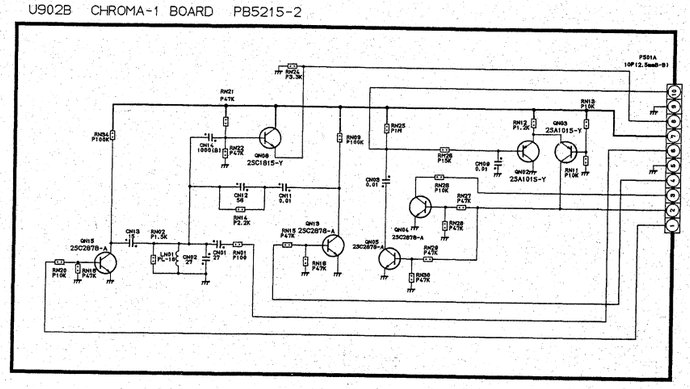
Rating Markings:

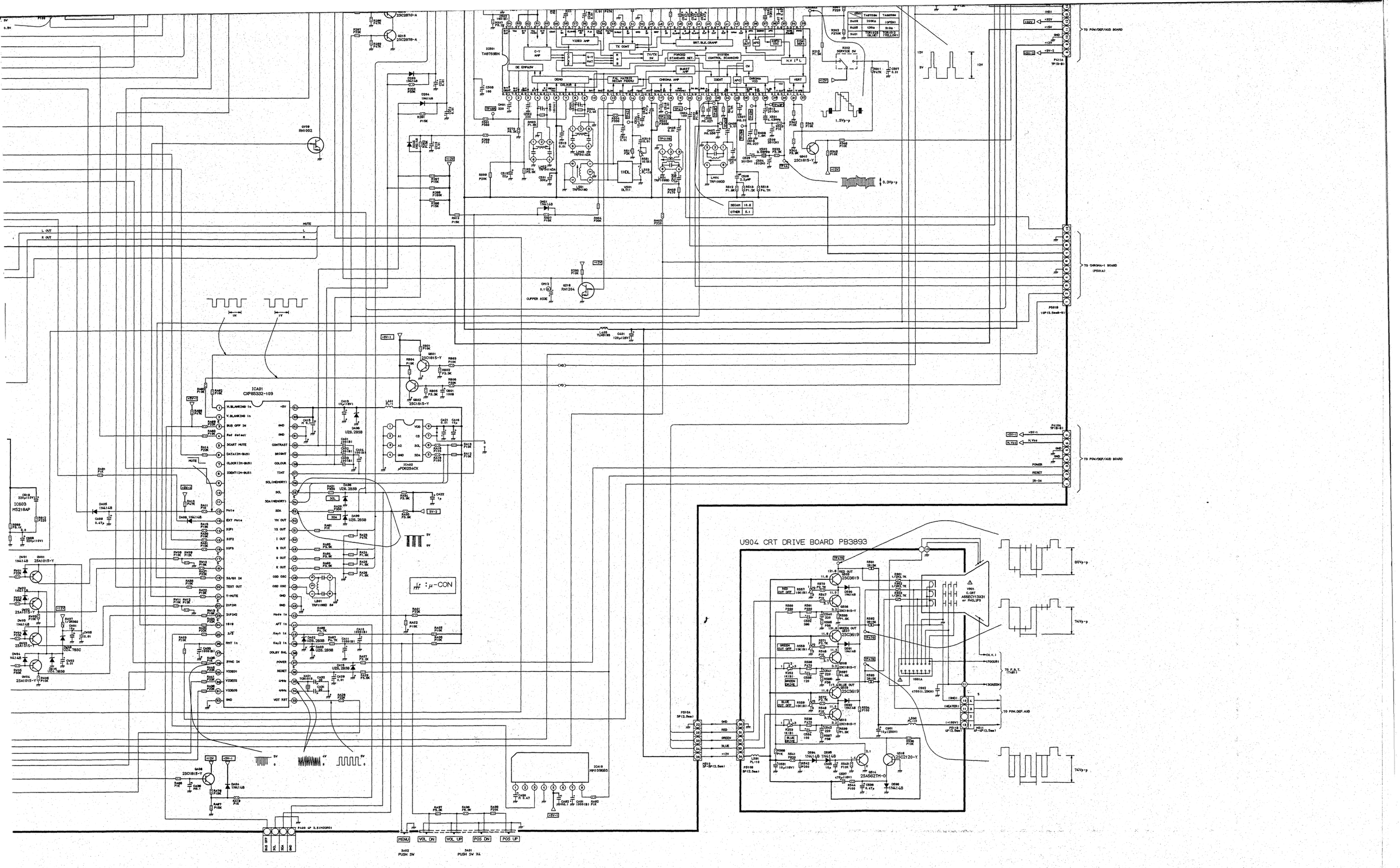
Type	Mark
Ceramic Disc 50V Only	
Electrolytic	
Electrolytic Non-Polar	
Variable Capacitor	
Other	

U902A SIGNAL BOARD PB5215-1



U902B CHROMA-1 BOARD PB5215-2

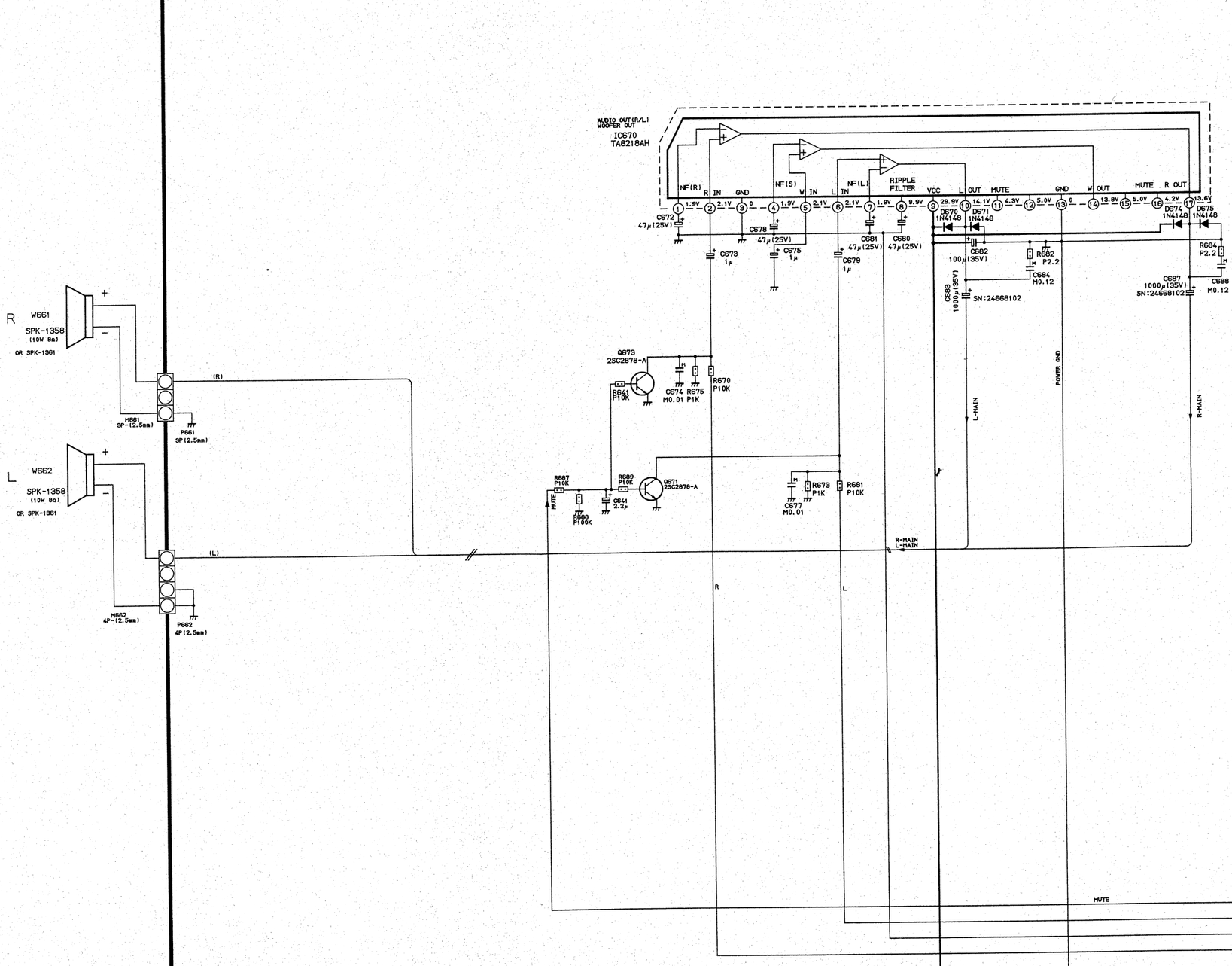



IC501
TA8759BN
VIDEO AMP
Y/C AMP
C-Y MAT
TX CONT
TV/TX SW
FORCED STANDARD SET
SYSTEM CONTROL SCANNING
BRT.BLK.CRAMP
H.V I²L
DE EMPHASIS
DEMOD
COLOUR
F/L SWITCH SECAM PEDIND
CHROMA AMP
IDENT
APC
CHROMA VCO
VERT
BURST AMP
SYNC SEP
1HDL
VSS1
DL711
IC501 TA8759BN
SECAM 10.6
OTHER 5.1
IC502 TA8759N
TA8759N
SECAM 10.6
OTHER 5.1
TO PDW/DEF/AUD BOARD
TO CHROMA-1 BOARD (PS01A)
TO PDW/DEF/AUD BOARD
IC501
IC502
IC503 M5218AP
IC401 CXP85332-109
IC402 μPD6254CX
IC403 1H1109GBS
μ-CON
U904 CRT DRIVE BOARD PB3893
V901 C.CRT A66ECT13X31 or PHILIPS
TO P.W.T. (T481)
TO PDW/DEF/AUD
PS01A 5P12.5mm
PS01B 19P12.5mm
PS02 5P12.5mm
PS03 4P12.5mm
PS04 4P 2.5(MICRO)
PS10A 5P12.5mm
PS10B 5P12.5mm
PS10 5P12.5mm
MENU
VOL DN
VOL UP
POS DN
POS UP
SW02 PUSH SW
SW01 PUSH SW X4
L OUT
R OUT
MUTE
L
R
1H
1V
(HD)
(VD)
RED
GREEN
BLUE
+12V
GND
H.Vcc
POWER
RESET
IR-IN
1.5Vp-p
0.3Vp-p
80Vp-p
74Vp-p
74Vp-p
(H.V.)
(FOCUS)
(SCREEN)
(GND)
(HEATER)
(+180V)
CUTOFF SIDE

2832TF

SCHEMATIC DIAGRAM (2/2)

U903 POW.DEF.AUD BOARD PB5216



P662
4P(12.5mm)

1040Vp-p(H)
TP84
1V
12Vp-p(H)
TP33
R416 5W5.6K
L421 AT4043/100T
C421 T0.47(200V)
C484 T1.5μ(200V)
L441 TLN21376
R446 2FR150
R442 1R1K
C444 T5100(1600VH)
C446 T7000(1500VH)
L412 TLN3191D
C485 T1.5μ(200V)
C486 T0.33(200V)
(-27V)
RD05 1/2R3.3K
C416 10μ(200V)
Q404 2SD2253(FA) HOR OUT
T401 TLN1083 HOR.DRIVE
TP83
C469 2200(B)+
C429 T0.47(200V)
C422 T0.047(400V)
L422 TLN3083
RD06 P2.4K
RD03 P5.6K
R411 P560
Q402 2SC1569(FA-5)
L406 TEH2011
33
0.3
R413 P150
C419 390B(500V)
R415 1R2.7K
C417 820B(500V)
DC0
-300V
1V
C446 T0.01(630V)
L414 TEH2011
CD11 3.3μ(100V)
RD02 ERC20-06
DD03 BYD33J
LD02 TLN3081
RD02 2R2.2
-20
QD01 2SB66
HUTE
R218 P4.7K
R255 20K(B)
SUB BRIGHT
R452 5KCC
H.CEN USER
AUDIO GND
AUDIO +B
C819 47μ
C818 470B(500V)
D813 BYD33J
T803 TPW3283AR
ZP81 PRF5000F08B(125VSA)
C849 470B(500V)
L821 TLN2026
D830 RU4Z LF-L1
L829 TEH2011
C829 2200μ(35V)
C840 470P(500V)
L860 TLN2026
C828 100(B)
R832 1/2R0.22
D831 BYD33J
L842 TEH2011
C827 470μ(16V)
D832 RU-4A LF-L1
L823 TNF9293D
L826 TLN3155D
F803 T800mA L/250V
C831 220μ(160V)
C830 220R(12KV)
R884 1/2FR1
R810 1/2R8.2
R815 1/2R1K
115V
126.0
27.8
IC826 TLP621(GR) or TLP721(GR)
R843 P820
C846 M0.1
D844 UZ12B5A
D811 1N4148
D826 1N4148
115.0
25.6
26.8
R842 P680
D825 1N4148
R820 P100
C833 10μ
26.2
R865 P680
Q828 2SC1815-Y
S1854(FA) ERROR AMP.
D848 UZ4.7B5E
L901 28" TSB2330AR 25" TSB2329AR DEGAUSSING COIL
R890 PTC180HM
P803 2P(MINI)
S801 POWER SW.
F801 T5A H/250V
R801 1/2R5.6M(HIGH-OHM)
C801 T0.1(AC250V)
T801 TRF3164 or TRF3157
C804 T0.1(AC250V)
C803 2200(AC400V)
C802 2200(AC400V)
P802 2P(kaku)
P801 AC CORD(2P) AC 220-240V (LIMIT VOLTAGE) 50/60Hz
BROWN
BLUE
D801 RBV406M LFA
C808 4700(AC250V)
C807 4700(AC250V)
R872 10W3.3
C809 270μ(400V)
D802 BYD33J
R803 1R68K
IC801 STR-S6708
START UP
OVP
PRE REG
LATCH
PROPORTIONAL DRIVE
THERMAL
OSC
OCP
REF
C
GND
B
Din
Dout
OCP
F/B
INH
Vcc
0.2
0.3
0.8
0.1
0.1
1.3
8.7
L812 TEH2011
L811 TEH2011
C817 470R(2KV)
C815 T220011.25KVH)
L810 TEH2011
R816 1R18
D807 BYD33J
D808 BYD33J
C816 47μ(25V)
R805 P100
D809 UZ5.6B5B
R817 1R0.27
D815 UZ15B5B
D803 BYD33J
C811 470B(500V)
D810 1N4148
Q802 2SC3852 RA or 2SD1944H RB
45.0
C814 470B(500V)
D806 BYD33J
6.7
R812 1/2R10K
C810 330μ(25V)
D804 UZ6.8B5B
C812 22μ(100V)
R813 P2.7K
D805 1N4148
R810 P1.2K
C813 M2200
700V
500V
0.8V
0.6V
3V
GND
:EARTH OF SIGNAL CIRCUIT
:EARTH OF POWER CIRCUIT

IC302 TA8859AP

IC301 TA8427K

OUT PUT
DRIVE
PULSE AMP
Vcc

SDA
SCL
V.FB
GND
Vin
EW.FB
T.C
VCC
RAMP
EW
AGC
EHT
V.D

+12V-1
+27V
+12V
MUTE
5L

DEFLECTION YOKE
VERT COIL
HOR.COIL
P570 6P(SamLock)
L462

H.V.
FOCUS
SCREEN
T481 TFB4117AR

TO CRT/D BOARD

P4138 8P(B-B)
MUTE
L
R
GND
SUB BRIGHT
AFC

P4128 7P(B-B)
(VD)
SDA
GND
SCL
V.DRIVE
H.DRIVE
H.V.CORRECTION

ABL
(HD)
+32V
+15V
GND

SUB BRIGHT
H.CENT USER

1V
DC0
0.9
3.5V
1.4Vp-p(V)
54V (V)
28V (V)
2.2Vp-p(V)
3Vp-p(V)
5.0V
2Vp-p(V)
1.5V
1.5Vp-p(V)
13V
-25V
130Vp-p(H)
2.2Vp-p(H)

C444 S100(1800VH)
L412 TLN3191D
C466 T0.33(200V)
C465 T1.5μ(200V)
TR1K
2FR150
C423 T0.47(200V)
C422 T0.047(400V)
L422 TLN3063
D07 TLN3081
C448 T0.01(630V)
L414 TEH2011
DD02 ERC20-06
CD11 3.3μ(100V)
DD03 BYD33J
RD02 2R2.2
RD08 P2.4K
RD05 1/2R3.3K
RD03 P5.6K
RD07 P27K
DD04 1N4148
QD01 2SB688
QD02 2SC1815-Y
DD05 UZ12B3A
DD07 UZ5.6B5B
DD06 UZ5.6B5B
RD10 P15K
RD04 1/2R1.0K
QD03 2SC1815-Y
C316 0.47
(-27V)
+27V
DC0
2.2Vp-p(H)
P413B 8P(B-B)
MUTE
L
R
GND
SUB BRIGHT
AFC
R218 P4.7K
R255 20K(B)
SUB BRIGHT
R452 5K(C)
C412 P0.0018
H.CENT USER
P412B 7P(B-B)
(VD)
SDA
GND
SCL
V.DRIVE
H.DRIVE
H.V.CORRECTION
ABL
(HD)
+32V
+15V
GND
+12V
+5V-2
+5V-1
H.Vcc
GND
GND
POWER
RESET
IR-IN
P411B 7P(B-B)
P410B 7P(B-B)
C819 47μ
C849 470B(500V)
L821 TLN2026
L829 TEH2011
C829 2200μ(35V)
L860 TLN2026
L842 TEH2011
C827 470μ(16V)
L829 TRF9253D
C830 220R1(2KV)
C831 220μ(160V)
L826 TLN3155D
F803 1800mA L/250V
126V
126.0
C848 M0.1
D811 1N4148
D826 1N4148
115.0
25.6
R829 P100
C833 10μ
Q827 S1854(FA) ERROR AMP.
D844 UZ12B5A
IN
OUT
GND
D848 UZ4.7B5B
IC835 L78MR05FA
28.0 3.9 5.0 5.0
R863 P1K
C837 10μ
C835 4.7μ
C836 10μ
R848 1/2R3.3K
R884 1/2FR12
Q861 2SC3852 RA or 2SD1944H RB
R864 1/2FR4.7
R860 1/2R680
D861 UZ5.6B5C
D816 UZ6.2B5A
C820 47μ(16V)
R868 P10K
Q604 2SA1015-Y
14.1V
13.8V
D601 1N4148
R874 P1K
C826 47μ
R870 2R18K
L866 PL-2.2
Q870 2SC2655-Y
28.0 10.1
D875 1N4148
R879 P4.7K
R876 1/2FR56
10.7
D874 UZ5.1B5C
D878 UZ5.6B5A
R893 P10K
4.3
R866 P470
Q836 2SA1015-Y
R925 P4.7K
0.7 5.0
D814 1N4148
0.2
R819 P4.7K
Q671 2SC1815-Y
D812 1N4148
(+5V-1)
(+12SV)
TP91
R490 P270
DE50 SCL003 RC3FX
LED POWER IND.
K901 IR-9109A-K
R470 1R0.5B
125.4 125
Q470 2SA1320
R471 P100
R472 1/2P39K
0.1 0.7
Q831 2SC1815-Y
R867 P10K
R869 P4.7K
D471 5F0R3942 (Q5H1) (2301B454)
R474 P330
D474 UZ16B5B
D475 UZ12B5B
R477 P15K
R475 P1K
C471 M0.47
C470 22μ(16V)
EARTH OF SIGNAL CIRCUIT
EARTH OF POWER CIRCUIT

SPECIFICATIONS

Input Power Rating:	91 W, AC 220 ~ 240 V, 50 Hz
Aerial Input Impedance:	75 ohm unbalanced type for VHF, UHF and CATV
Receiving Channels:	**SECAM L Standard:** VHF ..... channels B to C, 1 to 6, B to Q, 71 to 86 UHF ..... channels 21 to 69 **PAL B/G Standard, SECAM B/G Standard:** VHF ..... channels 2 to 4, 5 to 12 and S1 to S20, S21 to S41 UHF ..... channels 21 to 69 **PAL I Standard:** UHF ..... channels 21 to 69 **PAL D/K, SECAM D/K Standard:** VHF ..... channels 1 to 12 UHF ..... channels 21 to 69 **PAL, SECAM 50 Hz/60 Hz (For Video Disk playback)** **4.43 NTSC (For VCR playback), 3.58 NTSC (For VCR playback)**
Intermediate Frequencies:	Picture I-F carrier frequency ..... 38.9/34.47 MHz (L VL) Sound I-F carrier frequency L System ..... 32.4 MHz (L VH, U)/40.97 MHz (L VL) B/G System ..... 33.4/33.16 MHz I System ..... 32.9 MHz D/K System ..... 32.4 MHz
Picture Tube:	28 inches, A66ECY13X31, 660 mm (measured on diagonal of viewable picture area), 110° deflection
Sound Output:	10.0 W x 2 (at 10% Distortion)
Speakers:	120 mm x 80 mm oval 2 pcs
Aux. Terminals:	21 pin socket (FULL), 21 pin socket (S-VIDEO/AUDIO), S-VIDEO, VIDEO/AUDIO INPUT socket
Cabinet:	Table type
Dimensions:	Height ..... 569 mm Width ..... 700 mm Depth ..... 474 mm
Mass:	33 kg
Features:	Video input of multi system, OFF-timer, Bass boost sound

Specifications are subject to change without notice.